

Paul H. Ottosi - State Bar #69250  
LAW OFFICES OF PAUL H. OTTOSI  
16055 Ventura Boulevard, Suite 1200  
Encino, California 91436

Telephone: (818) 905-7333 - Fax: (818) 905-5598

Garry W. Williams - State Bar #63200  
LAW OFFICE OF GARRY W. WILLIAMS  
6928 Owensmouth Avenue, Suite 102  
Canoga Park, California 91303-2003

Telephone: (818) 715-9212 - Fax: (818) 715-7127

Attorneys for Plaintiffs, KIMBERLY MANFRED and  
AIDAN McCOY, by and through his guardian ad litem,  
Kimberly Manfred

UNITED STATES DISTRICT COURT

FOR THE CENTRAL DISTRICT OF CALIFORNIA

KIMBERLY MANFRED and AIDAN	)	CASE NO. CV-06-06208 GPS (JCx)
McCOY, by and through his	)	
guardian ad litem, Kimberly	)	
Manfred;	)	Trial Date: March 4, 2008
	)	
Plaintiffs,	)	PLAINTIFF'S NOTICE OF MOTION
	)	AND MOTION IN LIMINE NO. 1 FOR
vs.	)	ORDER EXCLUDING TESTIMONY
	)	OF DEFENDANTS' EXPERT, DR. TACK
JOSHUA P. GREENROCK; TIME	)	LAM OR, IN THE ALTERNATIVE,
WARNER, INC. a Delaware	)	LIMITING TESTIMONY; REQUEST
corporation; TURNER	)	FOR RULE 702 HEARING
BROADCASTING SYSTEM, INC., a	)	
Georgia corporation; and DOES	)	Oral Argument Requested
1 through 50, inclusive,	)	Rule 702 Hearing Requested
	)	
Defendants.	)	Date: January 28, 2008
	)	Time: 11:00 a.m.

COMES NOW plaintiff, KIMBERLY MANFRED, and moves in limine  
for an order excluding or, alternatively, limiting the testimony  
by defendants' declared expert, Dr. Tack Lam of Exponent,  
pursuant to Rules 104(a), 403 and 702 of the Federal Rules of  
Evidence.

1 This motion will be heard on the day of the Pre-Trial  
2 Conference, January 28, 2008.

3 Plaintiff alternatively requests a Rule 702 hearing if the  
4 moving papers and oral argument do not resolve the issues set  
5 forth herein.

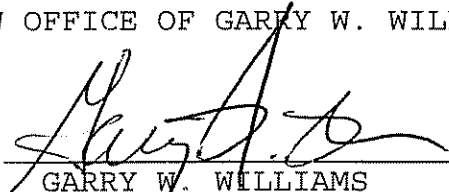
6 This motion is made following the conference of counsel  
7 pursuant to Local Rule 7-3, which took place on December 28,  
8 2007.

9 Counsel for moving party hereby certifies that a good faith  
10 effort has been made to meet and confer with opposing counsel to  
11 resolve the issues addressed in this motion both by telephone and  
12 by writing. The parties have been unable to reach a resolution  
13 of the issue (Exhibit 1, Meet and Confer correspondence dated  
14 December 28, 2007, sent to defendants' counsel).

15 Opposing counsel has not agreed to exclude Dr. Lam's  
16 testimony, thereby necessitating the instant motion.

17 This motion is based upon this notice, the Memorandum of  
18 Points and Authorities attached hereto, and the Declaration of  
19 Garry W. Williams. Additionally, this motion is based on the  
20 pleadings on file herein as well as upon such oral and/or  
21 documentary evidence as the Court may deem it appropriate to hear  
22 at the time of this motion being heard.

23 DATED: January 4, 2008 LAW OFFICE OF GARRY W. WILLIAMS

24  
25 By:   
26 GARRY W. WILLIAMS  
27 Attorney for Plaintiffs,  
28 KIMBERLY MANFRED and AIDAN MCCOY,  
by and through his guardian ad  
litem, Kimberly Manfred

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1 MEMORANDUM OF POINTS AND AUTHORITIES

2 I.

3 **FACTUAL BACKGROUND**

4 The instant lawsuit involves an auto vs. pedestrian accident  
5 which occurred on March 19, 2005, in the parking structure of the  
6 Renaissance Hotel in Las Vegas, Nevada.

7 At that time, a 15-passenger Chevrolet van, weighing  
8 approximately 6,000 pounds, struck and pinned the plaintiff to  
9 the tailgate of her pick-up truck as she was off-loading luggage.

10 Joshua Greenrock, employee of defendant, Superstation,  
11 failed to place the van in "park" before exiting the vehicle and  
12 it rolled forward striking Ms. Manfred.

13 Ms. Manfred claims injuries to her right knee and lower  
14 back, resulting in two back surgeries, and arthroscopic surgery  
15 to her right knee.

16 Defendant, Superstation, has stipulated to liability in this  
17 case.

18 II.

19 **EXPERT RETENTION AND OPINIONS**

20 Both parties to this action have retained various experts to  
21 give testimony at the time of trial with respect to the speed of  
22 the van at impact; the nature and extent of the injuries  
23 sustained by Ms. Manfred as a consequence of the incident; the  
24 reasonableness and necessity of medical care and attention (and  
25 medical expenses incurred therefor) by Ms. Manfred as a result of  
26 the accident. The analyses of the various experts retained by  
27 the parties are believed to be sufficiently outside the common  
28

1 knowledge of laypersons, rendering the expert opinion as  
2 appropriate.

3 The defendants have, per their disclosure of expert  
4 witnesses exchanged on or about September 19, 2007, disclosed no  
5 less than eight expert witnesses to give testimony at the time of  
6 trial.

7 Plaintiff will call a biomechanical engineer, a Mr. John  
8 Brault. Plaintiff will also call the two treating doctors who  
9 performed the surgeries, Dr. Arthur Kreitenberg (knee) and Dr.  
10 Kamran Aflatoon (two back surgeries).

11 On the subject of the accident and the mechanics and physics  
12 thereof, defendants have identified Paul Guthorn of Vollmer-Gray  
13 Engineering, 2421 Palm Drive, Signal Hill, California 90755, and  
14 Irving Scher, Ph.D. of Exponent, 5401 McConnell Avenue, Los  
15 Angeles, California 90066. Copies of these experts' reports are  
16 attached hereto as Exhibits 2 and 3.

17 Plaintiff underwent an independent/defense medical  
18 examination with Dr. Kevin J. Triggs, who has authored three  
19 separate reports attached hereto as Exhibits 4, 5 and 6.

20 In addition to the foregoing three experts, the defendants  
21 have also retained Dr. Tack Lam, M.D. and Ph.D., also of  
22 Exponent. A true and correct copy of Dr. Lam's report is  
23 attached hereto as Exhibit 7.

24 While apologizing for the length of the various reports,  
25 moving party finds no other way to bring to this Court's  
26 attention the redundant effort expended by Dr. Lam. A fair  
27 reading of his 13-page report dated September 15, 2007, clearly  
28 indicates that his testimony is duplicative of, on the one hand,

1 the testimony of Mr. Guthorn and Mr. Scher, Exhibits 2 and 3, as  
2 well as that of Dr. Triggs, Exhibits 4, 5 and 6.

3 While this case is one of admitted liability, the defense  
4 has estimated no less than 10 days to try this matter. In the  
5 interests of avoiding an unnecessary duplication of testimony,  
6 plaintiff believes that it would be appropriate to exclude the  
7 testimony of Dr. Lam as being both redundant and a potential  
8 waste of time and energy of this Court and jury.

9 More specifically, Dr. Lam's 16-page report provides no new  
10 information not previously provided in the reports of Mr.  
11 Guthorn, Mr. Scher and/or Dr. Triggs. The defendants have  
12 adequately covered the "bases" as to the accident itself with the  
13 testimony of Mr. Guthorn and Mr. Scher, and as the three reports  
14 of Dr. Triggs indicate, it is that doctor's opinion that the  
15 plaintiff suffered little, if any, real injury as a result of the  
16 accident in question.

17 Dr. Lam's report simply restates what is set forth in the  
18 reports of Messrs. Guthorn and Scher, as well as Dr. Triggs.

### 19 III.

#### 20 LEGAL BASES

21 (A) A motion in limine is appropriate under the  
22 circumstances of this matter pursuant to Federal Rule of Evidence  
23 702.

24 Both case law and practice authorize motions in limine such  
25 as the instant one. See U.S. vs. Cook (1979) 608 F.2d 1175,  
26 1186, and Ohler vs. U.S. (2000) 529 U.S. 753, 758.

27 Additionally, this Department's rules with respect to in  
28

1 limine motions clearly indicate that such motions, if  
2 appropriate, are the efficient way to introduce evidentiary  
3 issues prior to trial.

4 (B) F.R.E., Rule 403 provides:

5 "Although relevant, evidence may be excluded  
6 if its probative value is substantially  
7 outweighed by the danger of unfair prejudice,  
8 confusion of the issues, or misleading the  
9 jury, or by considerations of undue delay,  
10 waste time, or needless presentation of  
11 cumulative evidence."

12 Plaintiff submits that a review of the reports of the  
13 various experts leads to the conclusion that Dr. Lam adds nothing  
14 to this case other than repeating what is set forth by Mr.  
15 Guthorn and Mr. Scher on the issues of:

16 (a) The speed of defendants' vehicle at the time of the  
17 accident.

18 (b) The biomechanics of the impact between the van and  
19 Ms. Manfred's body.

20 (c) The potential for injury as a result thereof.

21 Mr. Scher, the biomechanical engineer concludes that Ms.  
22 Manfred's claims of injury are unsupported from an engineering  
23 standpoint. Dr. Lam's report echoes this opinion.

24 A review of Dr. Triggs' reports (Exhibits 4, 5 and 6)  
25 indicate that it is Dr. Triggs' view that Ms. Manfred's claims of  
26 injury and the three surgeries following the accident (two to the  
27 back and one to the knee) are unsupported by the medical records  
28 and Dr. Triggs' independent/defense examination which took place

1 on June 14, 2007. Dr. Lam echoes Dr. Triggs' conclusions.

2 By way of further detail, Mr. Scher's conclusions set forth  
3 in his report (Exhibit 3) at page 17, states as follows:

4 "Based on the analyses presented above, the  
5 forces and motions that Ms. Manfred  
6 experienced during the subject accident were  
7 not of the nature and magnitude to cause  
8 injury to or exacerbate pre-existing  
9 pathologies of Ms. Manfred's lumbar spine or  
10 right knee. The opinions in this report,  
11 based upon the materials reviewed and the  
12 education, experience, and knowledge of the  
13 author, are presented with a reasonable  
14 degree of mechanical engineering,  
15 biomechanical engineering, and scientific  
16 probability. As more information becomes  
17 available, this report may be amended."

18 Dr. Lam's conclusions as found in Exhibit 7, page 12, states  
19 as follows:

20 "In summary, based on my background,  
21 training, and experience in the areas of  
22 medicine, biomechanical engineering, and the  
23 materials reviewed to date, I have reached  
24 the following conclusions, and present them  
25 with a reasonable degree of scientific and  
26 medical certainty:

27 1. It is reasonably probable, from both  
28 biomechanical and medical stand-points, that

1 the bruising in both knees and tenderness in  
2 the right calf observed over one month after  
3 the subject incident resulted from her  
4 snowboarding injury the day prior to the  
5 incident.

6 2. The finding of cartilage softening  
7 (chondromalacia) on the right kneecap is an  
8 incidental finding. There is no  
9 biomechanical and medical bases to reasonably  
10 attribute the cartilage softening in the  
11 right kneecap to the incident of March 19,  
12 2005. Given Ms. Manfred's very active  
13 lifestyle, this finding is more consistent  
14 with patellar femoral syndrome (PFS).

15 3. The finding of a lumbar disc  
16 herniation at the L4-5 level is an incidental  
17 finding. The biomechanics and medical  
18 chronology do not support a reasonable  
19 mechanism for the subject incident to cause  
20 an acute lumbar disc herniation at the L4-5  
21 level.

22 The opinions and conclusions in this report  
23 are based upon the materials reviewed and the  
24 information available to me at this time. As  
25 more information becomes available at a later  
26 date, I reserve the right, if necessary, to  
27 amend this report or author a supplemental  
28 report."

1 Turning to Dr. Triggs' three reports, his several  
2 conclusions are found in Exhibit 4, pages 6, 7 and 8; Exhibit 5,  
3 pages 6 and 7, and Exhibit 6, pages 2, 3 and 4.

4 The Court is respectfully referred to those exhibits for a  
5 more complete recitation of opinions express by Dr. Triggs, but  
6 distilled to their essence, Dr. Lam's opinion cited hereinabove  
7 at page 7, line 18 through page 8, line 28, echo the opinions of  
8 Dr. Triggs.

9 Again, reference is made to Dr. Lam's conclusions set forth  
10 hereinabove and it is quite clear that Dr. Lam repeats what Dr.  
11 Triggs (and Mr. Scher) have already set forth.

12 The question then arises as to what, if any, benefit, other  
13 than "piling on" Dr. Lam's testimony would provide?

14 It is expected that Dr. Lam's testimony will take at least  
15 1-2 hours and cross-examination could take as long, if not  
16 longer.

17 Plaintiff asks the pertinent question of just what does Dr.  
18 Lam's testimony add to aid the trier of fact and it is  
19 respectfully submitted that the conclusion must be nothing other  
20 than allowing the defendants, unnecessarily, to repeat the  
21 proposed testimony of Mr. Scher and Dr. Triggs.

22 IV.

23 PERTINENT CASE LAW AUTHORIZES THE EXCLUSION  
24 OF TESTIMONY DUPLICATIVE OF OTHER EXPERT  
25 TESTIMONY.  
26

27 See, Upsher-Smith Laboratories, Inc. vs. Mylan Laboratories,  
28 Inc., D.Minn. 1996, 944 F. Supp. 1411, Federal Civil Procedure,

1 §1278, and Columbia First Bank, FSB vs. The United States,  
 2 Fed.Cl., 2003, 58 Fed.Cl.333.

3 In both of the cited cases (which in turn cite numerous  
 4 other cases on the subject of exclusion or redundant and  
 5 duplicative expert testimony), various courts have excluded  
 6 testimony believed to be merely duplicative and a waste of  
 7 precious court and judicial time.

8 V.

9 CONCLUSION

10 Plaintiff requests that this Court either exclude Dr. Lam's  
 11 testimony in its entirety or, in the alternative, hold its ruling  
 12 in abeyance pending the testimony of Mr. Scher and Dr. Triggs.  
 13 At that point in time, after having heard the testimony of these  
 14 two individuals, the Court may wish to revisit this issue by way  
 15 of an offer or proof submitted by defendants as to just what Dr.  
 16 Lam's proposed testimony will add to this case.

17 In the alternative, plaintiff requests a Rule 702 hearing  
 18 either prior to the commencement of trial or after the testimony  
 19 of Mr. Scher and Dr. Triggs have been given.

20  
 21 DATED: January 4, 2008

22 LAW OFFICE OF GARRY W. WILLIAMS

23  
 24 By: 

25 GARRY W. WILLIAMS  
 26 Attorney for Plaintiffs,  
 27 KIMBERLY MANFRED and AIDAN McCOY,  
 28 by and through his guardian ad  
 litem, Kimberly Manfred

DECLARATION OF GARRY W. WILLIAMS IN SUPPORT  
OF PLAINTIFF'S MOTION IN LIMINE NO. 1 TO  
EXCLUDE TESTIMONY OF DR. TACK LAM

I, GARRY W. WILLIAMS, declare:

1. That I am an attorney of law duly licensed to practice before all courts of the State of California, associated in this action on behalf of the plaintiff KIMBERLY MANFRED with attorney Paul H. Ottosi.

2. I have personal knowledge of the facts set forth herein and if called to testify, I would and could testify competently thereto.

3. This declaration is being submitted in support of plaintiff's Motion in Limine No. 1, seeking to exclude the testimony of Dr. Tack Lam on the grounds that the testimony is duplicative and if allowed to testify, will add nothing beyond the testimony proposed by the defendants' other experts and, additionally, in the interests of avoiding an undue waste of time should Dr. Lam be allowed to testify on matters which will be covered by three of defendants' designated experts.

4. On several occasions leading up to official notice (see December 28, 2007 letter attached as Exhibit 1), your declarant spoke with attorney Steven Joffe, attorney for defendants, on the subject of this particular motion with respect to what your declarant believed to be the cumulative and duplicative testimony of Dr. Lam.

5. Mr. Joffe did indicate on two or three occasions that he would "put something in writing" to address your declarant's concerns.

1           6. On December 28, 2007, your declarant spoke with Ms.  
2 Ashley Leach, associate to Mr. Joffe, and was advised that Mr.  
3 Joffe had suffered a death in his family and was not available.

4           7. At that point in time, your declarant advised Ms. Leach  
5 that it would be necessary to prepare the instant motion. As of  
6 the date of the preparation of this motion, no correspondence has  
7 been received from Mr. Joffe on the subject of Dr. Lam.

8           8. Without attempting to patronize, your declarant  
9 understands that Mr. Joffe recently suffered a death in his  
10 immediate family and, additionally, has very likely been  
11 distracted by preparation for a trial which will commence in  
12 early January. Therefore, your declarant does not believe that  
13 Mr. Joffe's representations to provide something justifying the  
14 additional testimony of Dr. Lam has been willful or that Mr.  
15 Joffe's representations were in any way made with an attempt to  
16 deceive or mislead your declarant.

17           8. In accordance with the Local Rules, the requisite "meet  
18 and confer" which culminated on December 28, 2007 has been  
19 undertaken and given the upcoming Pre-Trial Conference and the  
20 deadline for filing motions such as the instant one, your  
21 declarant felt it appropriate and necessary to file the instant  
22 motion to be heard at the Pre-Trial Conference on January 28,  
23 2008.

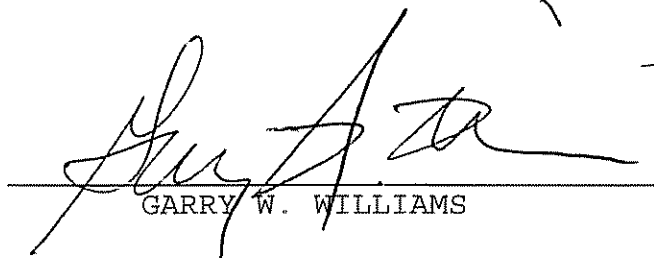
24           I declare under the penalty of perjury that the foregoing is  
25 true and correct.

26 ///

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28 ///

1 Executed this 4<sup>th</sup> day of January, 2008, at Canoga Park,  
2 California.

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5 GARRY W. WILLIAMS  
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PROOF OF SERVICE  
(C.C.P. Sec. 1013(a))

STATE OF CALIFORNIA :  
:  
COUNTY OF LOS ANGELES:

I, SUSAN BROWN am a resident of/employed in the aforesaid County, State of California; I am over the age of 18 years and not a party to the within action; my business address is: 6928 Owensmouth Avenue, Suite 101, Canoga Park, California 91303-2003.

On January 4, 2008, I served the foregoing document described as PLAINTIFF'S NOTICE OF MOTION AND MOTION IN LIMINE NO. 1 FOR ORDER EXCLUDING TESTIMONY OF DEFENDANTS' EXPERT DR. TACK LAM OR, IN THE ALTERNATIVE, LIMITING TESTIMONY; REQUEST FOR RULE 702 HEARING on the interested parties listed below:

Steven J. Joffe, Esq.  
WILSON, ELSER, MOSKOWITZ, EDELMAN & DICKER  
555 South Flower Street, Suite 2900  
Los Angeles, California 90071-2407  
Phone: (213) 443-5100 - Fax: (213) 443-5101

X VIA FACSIMILE By sending a true copy of the above-described document via facsimile on January 4, 2008, from facsimile number (818) 715-7127 to facsimile number (213) 443-5101, which number is known to be the facsimile number for the above-named individuals being served herein.

\_\_\_\_\_ VIA HAND DELIVERY

\_\_\_\_\_ VIA FEDERAL EXPRESS

\_\_\_\_\_ VIA MESSENGER By causing a true copy thereof to be delivered via messenger service at the address(es) set forth above.

X VIA U.S. MAIL By placing a true copy thereof enclosed in a sealed envelope. I am "readily familiar" with the firm's practice of collection and processing correspondence for mailing. It is deposited with U.S. postal service on that same day in the ordinary course of business. I am aware that on motion of party served, service is presumed invalid if the postal cancellation date or postage meter date is more than one day after date of deposit of mailing an affidavit.

\_\_\_\_\_ (State) I certify or declare, under penalty of perjury under the laws of the State of California, that the foregoing is true and correct.

X (Federal) I declare that I am employed in the office of a member of the Bar of this Court at whose direction the service was made.

1 Executed on January 4, 2008, at Canoga Park, California.

2  
3   
4 SUSAN BROWN

**Case No: VC-06-06208 GGN**

**Manfred, et al. vs. Greenrock, et al.**

**EXHIBIT 1**

*Law Office of*  
**GARRY W. WILLIAMS**  
6928 OWENSMOUTH AVENUE  
SUITE 102  
CANOGA PARK, CALIFORNIA 91303-2003

TELEPHONE (818) 715-9212 \* FAX (818) 715-7127

December 28, 2007

Via Facsimile & U.S. Mail

Ashley R. Leach, Esq.  
WILSON, ELSE, MOSKOWITZ  
EDELMAN & DICKER  
555 South Flower Street, Suite 2900  
Los Angeles, California 90071

Re: Manfred, et al. vs. Greenrock, et al.  
Case No.: VC-06-06208 GGN (JCx)

Dear Ms. Leach:

I am dropping you this fax to briefly confirm our several conversations with respect to this matter.

Briefly stated, as identified in plaintiff's Memorandum of Contentions of Fact and Law, plaintiff has two evidentiary concerns. They are:

1. While Mr. Joffe and I have had several brief conversations on the subject of what we believe to be duplicative testimony of Dr. Lam, I have not received anything from Mr. Joffe to convince me that our position is in error.

I understand that Mr. Joffe has been out of the office due to a death in his family, however, at this point, given that the Pre-Trial Conference is set for January 28, 2008, I am hereby placing you on notice of our intent to file a Motion in Limine to limit or exclude Dr. Lam from testifying at trial on the grounds that his testimony duplicates that of Dr. Triggs and/or Mr. Scher.

2. Also identified in our Memorandum, we have a concern with the trier of fact viewing that portion of the surveillance video where Ms. Manfred meets her friend for lunch and they are seated in her vehicle. It is our belief that showing that aspect of the surveillance video adds nothing to the merits or demerits of the case and its prejudicial effect outweighs its probative value. Given that Ms. Manfred cannot be seen in that portion of the surveillance video, it will call upon the trier of fact to speculate on just what is occurring.

This letter is intended to meet with the provisions of Local Rule 7.7-3, calling for us to meet and confer on the subject.

Ashley R. Leach, Esq.

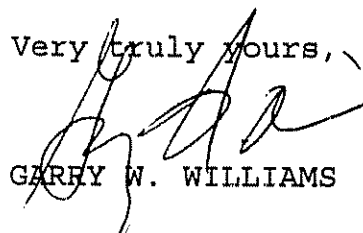
Re: Manfred, et al. vs. Greenrock, et al.

December 28, 2007

Page 2

As I stated to you in our conversation, if Mr. Joffe is able to convince me that the position with respect to either of the issues is without any merit, the subject motions would be withdrawn.

Very truly yours, \ .



GARRY W. WILLIAMS

sb

cc: Paul H. Ottosi, Esq.

**Case No: VC-06-06208 GGN**

**Manfred, et al. vs. Greenrock, et al.**

**EXHIBIT 2**



---

September 18, 2007

Laboratory Number 070305

Reference: Manfred vs. Time Warner

Date of Incident: March 19, 2005

### **ENGINEERING ANALYSIS**

#### **INTRODUCTION**

An evaluation has been performed of an accident involving a 2005 Chevrolet Express 15 passenger van contacting Kimberly Manfred while she was standing at the tailgate of a 2003 Toyota Tundra pickup truck. The purpose of the evaluation was to determine the circumstances and conditions surrounding the accident.

#### **BACKGROUND**

The following information was reviewed and may be used as exhibits at trial:

- Enterprise Leasing Company Rental Agreement No. D187676, dated 3-15-05.
- First Amended Complaint
- General Form Interrogatories
- Plaintiff's Responses to Form Interrogatories
- Deposition of Joshua Greenrock



- 
- Deposition of Kimberly Ann Manfred
  - 2007 Mitchell Collision Estimating and Reference Guide
  - 2007 Kelly Blue Book Used Car Guide
  - 2007 Expert Autostats Vehicle Database
  - Four accident scene photographs
  - July 16, 2007 photographs and documentation
  - September 11, 2007 photographs and documentation

On March 19, 2005 a Chevrolet van being operated by Joshua Greenrock rolled forward when the engine was running and the transmission was left in Drive. The front end of the van reportedly struck Kimberly Manfred while she was standing at the back of her Toyota Tundra pickup truck.

According to Mr. Greenrock, he was sitting in the driver's seat and thought the van transmission was in Park when it was, apparently, in Drive. He got out of his seat to pick up trash within the van. He did not feel the van moving. His first notice of a problem was when he heard a scream. Mr. Greenrock stated that it couldn't have been more than 15 seconds from when he got out of his seat until he heard the scream. When he heard the scream, he looked up and saw that the van had rolled forward and as fast as he could, he jumped back into the driver's seat, put the transmission into Reverse and reversed direction. He stated that he backed up about five to ten feet and shifted to Park. Mr. Greenrock indicated that there was no damage to the van from this incident.



Ms. Manfred stated that she was standing behind the tailgate facing the back of the truck. Her son was sitting on the tailgate facing the opposite direction that she was. She was pulling gear out of the truck bed when her son screamed for four to five seconds and pulled himself into the back of the truck bed. She remembered the front part of the grille and bumper of the van was against her.

The subject van was identified as having been rented from Enterprise Leasing Company in Las Vegas. Per an Enterprise Leasing Company Loss Control Representative, the subject van was either VIN 1GAHG39UX51112689 or 1GAHG39U451192412. Both are 2005 model year 15 passenger Chevrolet Express two wheel drive, 1 ton, extended body vans with 6.0 liter V8 engines. *The Expert Autostats* vehicle database lists a curb weight for this vehicle of 6321 pounds and LT245/75R16 tires. It was reported that there was no damage to the van and that the renter was not billed for any repair or part replacement.

The subject Toyota Tundra pickup was identified by VIN 5TBRT341X3S407658. This identifies the vehicle as a two wheel drive 2003 Toyota Tundra SR5 extended cab with a 4.7 liter V8 engine. Photographs of the truck indicate that it had the TRD sport package. Tire size for this vehicle is listed as 265/70R16. The subject Toyota had a camper shell installed over the bed.

### INSPECTION

An inspection was performed on July 16, 2007 at the Renaissance Marriott parking structure on Paradise Road in Las Vegas. The parking structure is 6 levels and adjoins the north side of the hotel. Parking is predominantly on the sloped ramps between levels where



the majority of parking stalls are facing north or south. The ramps are oriented in an east/west direction. There are no parking spaces at the east end of the ramps. The west ends of the ramps on levels 2, 3, 4, and 5 have west facing parking spaces. A typical ramp is 60 feet wide with an 18 foot long parking space on the north side and on the south side. A 24 foot wide path is available for travel up and down the ramps.

A comparison of the provided accident scene photographs with the parking structure indicated that the accident occurred at the west end of level 3. The Toyota was parked with its front end facing west in the northernmost parking space. This parking space is 10 feet wide and 18 feet long. Based on the photographs, the Toyota tailgate extended approximately 4 feet beyond the end of the parking space striping.

An exemplar van was provided for evaluation. It was identified by VIN 1GAHG39UX71125994 and was a 2007 model year, 15 passenger Chevrolet Express two wheel drive, 1 ton, extended body van with a 6.0 liter V8 engine. Comparison of the 2007 model year and 2005 model year Chevrolet Express shows that there were no significant design changes. Published dimensional and weight information is the same for both years. The van was equipped with LT245/75R16 tires.

The exemplar Chevrolet van was positioned on the ramp facing west such that while in drive, the van would just barely begin to roll forward when the brake pedal was released. This occurred at a measured distance of 58-1/2 feet from the van front bumper to the west wall of the parking structure. The van was allowed to move forward from this point and the time required to reach the east end of the Toyota parking space was recorded. Times of 14.96



and 16.80 seconds were recorded. It was noted that the van would gradually increase in speed and then reach what appeared to be a relatively constant rate.

An exemplar Toyota Tundra was positioned in the parking stall adjacent to the path of the van such that, with the tailgate lowered, the distal end of the tailgate was four feet east of the parking stall lines. Using the westernmost parking stall line for the spaces along the north wall as a start and the Toyota tailgate as the end of a four foot distance, the time to travel the final four feet was measured and used to calculate the final speed. The measured times of 2.25 seconds and 1.84 seconds correspond to speeds of 1.21 mph and 1.48 mph, respectively.

The van speedometer, which is marked in 1 mile per hour speed increments, was observed during the evaluation. It showed a speed of approximately 1.5 miles per hour when the van reached the east end of the parking stall painted stripe

### **VEHICLE TESTING**

An exemplar 2007 Chevrolet Express cargo van and an exemplar 2005 Toyota Tundra four door SR5 Access Cab were tested on September 11, 2007. The van was identified by VIN 1GCFG15X381103033. It was ballasted with additional weight to match the published 6321 pound curb weight and weight distribution of the subject 2005 Express 15 passenger extended van. An additional 160 pounds of weight was added to account for Mr. Greenrock's weight. To account for the difference in height between the exemplar ½-ton van and the subject 1-ton van, the exemplar van was raised approximately 1-1/2 inches.

The exemplar Toyota Tundra was identified by VIN 5TBRT34125S459319. Equipment included the TRD sport package, V8 4.7 liter engine, and P265/70R16 tires. The



vehicle weight, as received, was 4584 pounds. Weight was added to the truck bed to account for the camper shell, bed contents and Ms. Manfred's son who was in the back of the truck. An anthropometric test dummy was placed at the Toyota tailgate.

The exemplar van was propelled in neutral into the dummy/Toyota. The impact speed of the first test was measured at 0.79 mph. At the conclusion of the test, the vehicles were examined for evidence of damage. None was found. A second test, also in neutral and recorded at 1.43 mph, was performed. On this occasion, there was minor but barely noticeable damage to the plastic Chevrolet grille assembly. The horizontal bar at the approximate mid-height of the grille was cracked at the emblem insert. It should be noted that in both tests, the van rebounded off of the dummy/Toyota coming to rest a short distance away from the Toyota.

Additional testing was performed with the van engine running and transmission in drive. A new grille was installed before running the test. The first test, recorded at 0.75 mph, resulted in major cracking of the grille. A second test (using a new grille) was recorded at 1.34 mph. This test also resulted in major damage to the grille. In both of these tests, the van remained in intimate contact with the dummy/Toyota while the van was in Drive.

For all tests, the Toyota transmission was in Park and the parking brake was released. The Toyota did not slide or roll forward in any of the tests. There was no damage to the Toyota in any of the tests.

### **DISCUSSION**

Evaluation of the accident site parking structure using an exemplar van showed that the van could be positioned on the ramp leading to level 3 such that, while in Drive and at

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idle speed, the van would very gradually start to ascend the ramp. The time required to travel up the ramp to where the Toyota was located is consistent with the time estimate given by Mr. Greenrock. It should be noted that positioning the van further up the ramp (and in closer initial proximity to the Toyota) would result in immediate, noticeable, forward motion of the van.

Mr. Greenrock stated that he responded to a scream. Ms. Manfred stated that her son screamed for four to five seconds and pulled himself into the back of the truck. Mr. Greenrock indicated that he got back in the driver's seat as fast as he could and put the transmission in Reverse. Ms. Manfred remembered the front part of the van's grille was against her.

The testing performed showed that had the van remained in Drive while it contacted Ms. Manfred, major grille damage would have occurred even at speeds as low as 0.75 mph. Given what has been described, it is probable that Mr. Greenrock was able to disengage Drive immediately prior to contacting Ms. Manfred.

Evaluation of an exemplar van at the accident site indicated the van speed at 1.21 to 1.48 mph. The lack of any reported damage to the subject van grille would indicate that the van speed would have been less than the test speed of 1.43 mph with Drive disengaged.

### **CONCLUSIONS**

The subject Chevrolet Express van rolled forward and contacted Ms. Manfred when the van driver left the driver's seat with the engine running and the transmission in Drive.



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The van would have been approximately 36-1/2 feet from the Toyota tailgate when the van driver left the seat.

The measured times of 14.96 and 16.80 seconds during exemplar testing are consistent with the time approximation of Mr. Greenrock.

Based in part on the measurements of the exemplar van at the accident site and grille damage sustained in vehicle testing, the van was traveling at less than 1.43 miles per hour when it contacted Ms. Manfred.

Based in part on the major grille damage sustained in vehicle testing with the van in Drive, the van was not in Drive when it contacted Ms. Manfred.

The aforementioned is based upon a reasonable degree of engineering probability and on information available as of the time of report preparation. Should additional information become available, the undersigned reserves the right to incorporate said information into this evaluation.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Paul S. Guthorn', is written over a horizontal line.

Paul S. Guthorn, MSME

Professional Mechanical Engineer - M28649

Professional Metallurgical Engineer - MT1845

**Case No: VC-06-06208 GGN**

**Manfred, et al. vs. Greenrock, et al.**

**EXHIBIT 3**

**Exponent**  
*Failure Analysis Associates<sup>®</sup>*

Exponent  
5401 McConnell Avenue  
Los Angeles, CA 90066

telephone 310-754-2700  
facsimile 310-754-2799  
www.exponent.com

September 19, 2007

Ms. Ashley Leach, Esq.  
Wilson Elser Moskowitz Edelman & Dicker LLP  
555 S. Flower Street  
Suite 2900  
Los Angeles, CA 90071-2407

Subject: Manfred v Time Warner  
Project No. LA32715.000

Dear Ms. Leach:

In accordance with your request, Exponent<sup>®</sup> Failure Analysis Associates<sup>®</sup> has performed a biomechanical analyses of the March 19, 2005, accident involving Kimberly Manfred. The objectives of this analysis were to evaluate the motions and forces experienced by Ms. Manfred during the subject accident, and to determine whether the accident could have produced or exacerbated Ms. Manfred's knee and lumbar spine pathologies. Please accept this report of my findings to date.

Based upon the scientific analyses outlined below, the forces that Ms. Manfred experienced during this accident would not have been sufficient to cause her knee and lumbar spine pathologies. Her knee and spinal pathologies are consistent with repetitive loading of these tissues over time, and not acute loading. Furthermore, there was no mechanism in the subject accident to exacerbate Ms. Manfred's knee and lumbar spine pathologies. The opinions in this report, based upon the materials reviewed and the education, experience and knowledge of the author, are presented with a reasonable degree of engineering and scientific probability.

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## Qualifications

My educational background includes a Bachelor of Science degree in Mechanical Engineering from the University of Pennsylvania, a Master of Science degree in Mechanical Engineering from the University of California, Berkeley, and a Doctorate in Mechanical Engineering specializing in Biomechanics and Dynamic Systems from the University of California, Berkeley (Berkeley). At Berkeley and University of Southern California (USC) I have taught undergraduate and graduate coursework in the areas of biomechanics, instrumentation, and dynamic systems. I am a registered Professional Engineer in California, license no. M32908.

I am currently employed as a Managing Engineer in Exponent's Biomechanics Practice, working in Los Angeles, California. I hold an Adjunct Assistant Professor of Clinical Physical Therapy in the Department of Biokinesiology and Physical Therapy at USC.

I have extensive experience quantifying human motion and the forces acting on the human body during accidents, everyday activities, and recreational sports (such as snowboarding and running). I also have extensive experience with biomechanical testing design and analysis. I have studied human motion, loading, and injury potential through the analysis and interpretation of crash-test responses of anthropomorphic test devices (ATDs) or "crash test dummies" and by applying computational models of the human body. This work includes more than 200 tests involving the use of ATDs for purposes of evaluating kinematics, loading, and injury potential. The results of my research projects in the fields of biomechanics have been published in peer-reviewed publications and presented at national and international conferences. This includes research in experimental, computational, and statistical analysis of human motion and injury, the development of dynamic models of the human body, and the biomechanics of various activities.

My curriculum vitae is included as Attachment A. A list of cases where I have provided expert testimony is included in Attachment B. For your information, Exponent currently bills my work at \$260 per hour.

## Information Received

The following information has been received and reviewed:

- Legal documents
  - First Amended Complaint, dated February 26, 2007
  - Form Interrogatories - General, Asking Party: Defendants, Greenrock, Turner & Time Warner; Answering Party: Plaintiff, Kimberly Manfred; Set no. 1, dated January 11, 2007
  - Plaintiff's responses to form interrogatories, dated March 1, 2007
  - Plaintiff Kimberly Manfred's further responses to form interrogatories, dated March 28, 2007

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- Employment records from Cox Communication for Kimberly Manfred
- Deposition transcripts
  - Joshua P. Greenrock, dated January 20, 2007
  - Kimberly Ann Manfred, dated April 24, 2007
  - Andrew M. Blumenfeld, M.D., dated July 18, 2007
  - Maya B. Kaura, M.D., dated July 18, 2007
  - Kamran Aflatoon, D.O., dated July 25, 2007
  - Bradley Duc Tran, M.D., dated July 25, 2007
  - Lisa Meyerhof-Jones, dated July 30, 2007
  - Arthur Kreitenberg, M.D., F.A.C.S., dated August 21, 2007
  - Aidan Joseph McCoy, dated September 1, 2007
- Digital copies of color photographs (4) from the accident scene
- Surveillance videos from CVI (2 CDs)
- Medical records of Kimberley Manfred
- Enterprise rental agreement, dated March 26, 2005
- Supplemental report by Kevin J. Triggs, M.D., dated August 12, 2007

### **Deposition Testimony of Kimberly Manfred**

Ms. Manfred testified that at the time of the subject accident she and her son had arrived at a hotel. Ms. Manfred was at the back tailgate of her truck, facing the back of the truck, leaning into the truck, and pulling out clothes and other things to stay overnight. The tailgate was down and her son was seated on the tailgate facing away from the car. Ms. Manfred testified that her son screamed and pulled himself into the bed of the truck, and she turned "a little bit" and saw a van approaching directly behind her. The van came into contact with her right side, around her hip and buttocks. The front of the grille and below contacted her right calf through her right buttock. At the time of contact she was leaning against the truck's tailgate with "some part" of the front of her body at hip level. The van caused her front to contact the tailgate and "the tailgate folded up and I folded with it." She was released from contact with both vehicles, but does not recall how this happened. About five to ten seconds passed before the van released her.

Ms. Manfred's job responsibilities prior to her accident included sitting for long periods of time and lifting equipment such as cable modems, wires, monitors, and hard drives that did not exceed a total weight of 30 pounds. She bent and twisted her body as part of her job to perform tasks such as picking up equipment, putting computer components together, and plugging things into outlets. Ms. Manfred testified that she was an "avid" runner prior to the accident. She used to run three to five miles per day every day and ran five to ten miles per day on the weekends. Prior to the accident, she would snowboard every weekend during the season, would surf every weekend during the summer, and would play soccer and skateboard with her son. Ms. Manfred

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stated that she participated in jujitsu two to three times per week. Prior to the accident, Ms. Manfred would swim two to three times per week.

### **Deposition Testimony of Joshua Greenrock**

At the time of the accident, Mr. Greenrock was in a 15-passenger van with the engine running and the gear selector in drive. Mr. Greenrock described, "I thought the van was in park, and I got out of my seat." He got out of the driver's seat and walked towards the rear of the van, without exiting the van. He did not feel the van moving and said, "It couldn't have been more than 15 seconds," from the point when he left his seat until he heard a scream. He testified, "I looked up and I saw that the van had rolled forward, and I, as fast as I could jumped back in the driver's seat, put it in reverse, and reversed it." When he got to the driver's seat, he could see a woman's body from the chest up. He could not tell if she was against any object at the time. Mr. Greenrock thought that the tailgate of her vehicle was down. He does not know his speed at the time of contact. In addition, Mr. Greenrock stated during a telephone conversation with me on September 12, 2007, that there was no visible damage to the front of his van as a result of the subject accident.

### **Medical Records of Kimberly Manfred**

Ms. Manfred's pre-accident medical records showed that on February 11, 2003, Dr. Richard Wasley read x-rays of her right foot to be normal. A medical history taken by Maya Kaura, M.D., on April 12, 2002, showed that a few months prior, Ms. Manfred had severe leg pain and an inability to walk. Dr. Kaura's notes indicated that after a bicycle/car accident in 1992, she experienced back pain, joint swelling, numbness/tingling, and leg pain on walking. At the April 12<sup>th</sup> visit, Ms. Manfred reported to her doctor that she ran, swam, or lifted weights six days per week and also participated in yoga and surfing. Ms. Manfred saw Dr. Kaura on September 27, 2004, with complaints of pain in her lower back that made it difficult to stand or sit and said that she had low back pain across the mid lumbar region for many months that had worsened over the previous two weeks. At that time, Ms. Manfred had x-rays taken of her lumbar spine that were read by Dr. Lokesh Arora as having no abnormalities. On December 27, 2004, Ms. Manfred had x-rays taken of her left ankle that were read by Gerald Stevens, M.D., to show no fracture.

On the day of the subject accident, Ms. Manfred went the Sunrise Hospital and Medical Center emergency room where she was diagnosed with a right thigh muscle spasm. X-rays of her pelvis, right hip, and femur were all negative for fracture. It is noteworthy that the treating nurse at the emergency department documented bilateral knee ecchymosis and documented that Ms. Manfred stated this was from snowboarding the previous day.

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According to her medical records, Ms. Manfred was seen by Maya Kaura, M.D., four days after the subject accident and complained of back pain that radiated to her right leg. At that time, she was having difficulty ambulating and was using crutches, but was not experiencing weakness. Ms. Manfred was experiencing right sciatic and back pain secondary to lumbosacral strain. Lumbosacral x-rays taken on this day were read as "normal" by Stephen Whipple, M.D. On March 30, 2005, Ms. Manfred was again seen by Dr. Kaura and was diagnosed with an ecchymotic area around her right buttock and back of her knee, right calf tenderness without erythema or increased temperature, and left knee medial swelling. No edema was noted at the time.

Aliso Creek evaluated Ms. Manfred on April 4, 2005, and reported that her right thigh, hamstrings, posterior thigh and calf were tender to palpation. On April 7, 2005, Ms. Manfred saw Lance Wrobel, M.D., and complained of generalized right lower extremity pain; Dr. Wrobel diagnosed Ms. Manfred with generalized right lower extremity soft tissue trauma. On April 13, 2005, Keith Burnett, M.D., D.A.B.R. read a lumbosacral MRI to show a right lateral disc protrusion with an extrusion (6-7 mm by 10 mm, peripheral annular fissure, subarticular recess stenosis with thecal sac impingement, foraminal narrowing and some fat displacement from around the circumference of the dorsal root ganglion at L4-5).

Bradley Tran, M.D., examined Ms. Manfred on April 22, 2005, and noted some possible soft tissue swelling in her lower sacral area with tenderness along her sacral region, right buttock, posterior thigh, posterior knee, and calf. At that time, she also exhibited "exquisite tenderness" around the medial aspect of her right ankle distal to the medial malleolus. He diagnosed her with an L4-5 right-sided disc protrusion of 6-7 mm, back and right leg pain, a possible S1 dermatome, and a right ankle sprain. A follow-up visit with Dr. Tran showed that Ms. Manfred's right leg pain was improving, but her back pain persisted after sitting for a few minutes. According to a record from Aliso Creek on July 19, 2005, Ms. Manfred was swimming, walking, and biking on a regular basis for cardiovascular endurance, with no radiculopathy or paresthesia during her exercises or activities of daily living. Dr. Tran saw Ms. Manfred on August 17, 2005, when she continued to have some back pain and right anterior groin pain. At that time, her leg pain had "essentially resolved." His assessment of her condition included a 7 mm lumbar disk protrusion at L4-5 and a soft tissue injury of the right leg.

On November 4, 2005, Firooz Amjadi, M.D., diagnosed Ms. Manfred with degenerative disk disease and a herniated disk at L4-5 with an annular tear in addition to a lateral recess stenosis and foraminal stenosis at L4-5 on the right side, and a right knee bilateral joint line tenderness that could possibly be due to a meniscal tear. On December 2, 2005, Dr. Burnett read Ms. Manfred's MRI as demonstrating a right disc protrusion at L4-5 of similar dimensions compared to a study completed on April 13, 2005. Dr. Amjadi saw Ms. Manfred on December 8, 2005, at which time she exhibited lower back pain at the lumbosacral junction that was most significant with extension, reduced sensation on the right L5 and S1 distributions, the anterior pelvis as a source of pain over the lateral femoral cutaneous nerve, and tender to

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palpation of the bilateral joint lines of the right knee. Ms. Manfred went to Aliso Creek on December 20, 2005, when her medial and lateral joint line, inferior patella, and the posterior knee were tender to palpation. Dr. Burnett read Ms. Manfred's MRI of her right knee as negative for meniscus or ligament tear on January 18, 2006. Ms. Manfred was released for full duty on February 23, 2006. Caroline Choan, M.D. performed an EMG evaluation of Ms. Manfred on March 9, 2006, and found that the EMG findings were normal except for very early changes within the L4 myotome suggestive of early right L4 radiculopathy. On March 21, 2006 Robert Jackson, M.D. noted L4 myotome changes and L4, possibly L5 radiculopathy with no evidence of significant nerve damage.

On May 11, 2006, Kamran Aflatoon, D.O., performed a partial facetectomy, neural foraminotomy, and discectomy at L4-5. Ms. Manfred saw Arthur Kritenberg, M.D., on July 10, 2006, and complained of moderate/severe lumbar pain with numbness and tingling down both legs, which became worse with walking and standing. She also experienced sharp right knee pain that was worse during walking. A note was made that an MRI of the knee from January 18, 2006, showed effusion of the right knee and the posterior cruciate ligament (PCL) was attenuated but intact. On July 12, 2006, Dr. Aflatoon noted that Ms. Manfred had begun swimming exercises the previous week. A bone scan of her right knee done on July 25, 2006, was read by John Johnson, M.D. as normal. An MRI of the pelvis done on the same date was read by Karen Aderhold, M.D., as normal, and Dr. Aderhold read an MRI of the lumbosacral spine as showing fluid collection surrounding the spinous processes status-post right laminotomy and partial discectomy at L4-5. Ms. Manfred saw Arthur Kreitenberg, M.D., F.A.C.S. on July 28, 2006, with complaints of persistent pain in her right knee, left calf, and low back, and knee arthroscopy was recommended at that time, with a second opinion in favor of the surgery provided by Jon Greenfield, M.D., on August 4, 2006. Dr. Greenfield's impression was internal derangement of the right knee.

Ms. Manfred was seen by Wynne Myint, M.D., in the emergency room on August 16, 2006, after an onset of headaches, neck pain, dizziness and ear pain the day before. A head CT taken at that time was read by Robert Varney, M.D. to show a left frontal intra-axial lesion representing a cavernous angioma, with no evidence of subarachnoid hemorrhage. On September 19, 2006, Ms. Manfred underwent arthroscopic surgery of her right knee by Dr. Kreitenberg. He observed Grade II chondromalacia over the central portion of the retropatellar surface measuring 8 by 10 mm, mild PCL instability, general synovitis, and an intact meniscus.

Near the time of the incident, Ms. Manfred was at 5 ft 2 in tall and weighed approximately 115 pounds.

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## Site Inspection and Surrogate Study

Exponent conducted a site inspection and exemplar study at the accident location in Las Vegas, Nevada on July 16, 2007, using a surrogate of Ms. Manfred's approximate height and weight. The purpose of this inspection was to examine the relationship between Ms. Manfred's anthropometry and the external structures of the vehicles involved in the subject accident, at the accident location. Two exemplar vehicles were obtained for the tests: (1) a 2004 Toyota Tundra SR5 (VIN 5TBRT341X4S450947) and (2) a 2007 Chevrolet Express G3500 Extended Sport Van (VIN 1GAHG39UX71125994). The exemplar vehicles were placed at the approximate location of the accident (Figure 1). Initial placement of the vehicles and surrogate was based on the deposition testimony and the accident scene photographs. The surrogate was placed between the rear of the Toyota pickup truck (with the tailgate down) and the front of the Chevrolet van, facing towards the front of the truck. Measurements of vehicles were taken at the accident location, including bumper heights.



Figure 1. Photograph of setup from the site inspection and surrogate study

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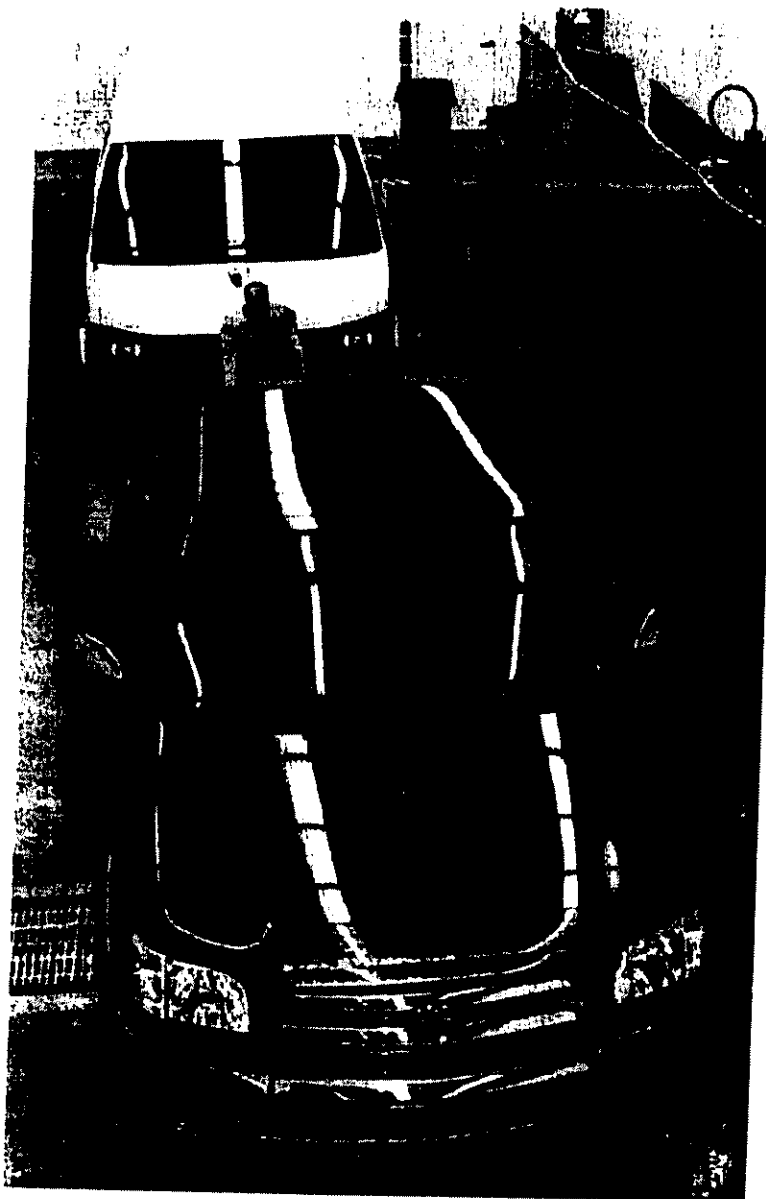
## Exponent Testing

The subject accident was recreated at Exponent's Test and Engineering Center (TEC) laboratory to ascertain the motions and forces experienced by Ms. Manfred. These tests used a 5<sup>th</sup> percentile female anthropometric testing device (ATD) that was adjusted to match Ms. Manfred's anthropometry as described in her medical records. The ATD was equipped with a pedestrian pelvis and a lumbar spine load cell used to measure the force at the lumbar spine during the tests.

The testing setup was designed to recreate the subject accident based on deposition testimony, Ms. Manfred's medical records, the surrogate study, and the accident scene photographs. Two exemplar vehicles were obtained for the tests: (1) a 2005 Toyota Tundra SR5 (VIN 5TBRT34125S459319) and (2) a 2008 Chevrolet Express Cargo Van (VIN 1GCFG15X381103033); see Figure 2. The rear end of the Toyota Tundra and front structures of the Chevrolet Express Cargo Van were determined to be significantly similar (if not identical) to the vehicles in the subject accident. In order to recreate the subject accident, ballast was added to the Toyota pickup truck bed to simulate the magnitude and distribution of weight of the camper shell, the gear, and Aidan McCoy. Ballast was also added to the Chevrolet van in order to match the weight (and weight distribution front to back) of the subject van, including Mr. Greenrock. Additionally, all of the Toyota Tundra's and Chevrolet van's fluid levels were full during the testing. The bumper, grille, and hood heights of the Chevrolet van were lower to the ground than those of the exemplar vehicle used during the site inspection and surrogate study in Las Vegas, Nevada (described above). In order to match more closely the heights of the front bumper, grille, and hood of the van at the site inspection, the Chevrolet van was placed onto 2 x 8 planks of wood for the tests. Aside from raising the van, the wood did not influence the tests.

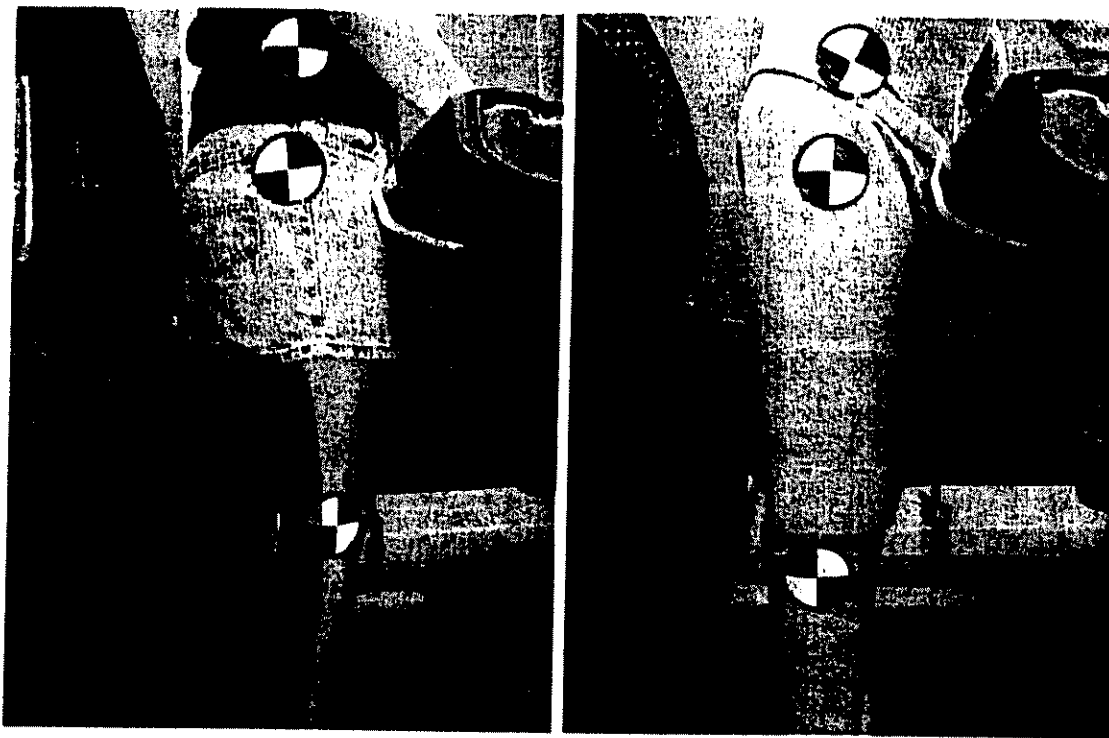
Initial placement of the ATD and exemplar vehicles was based on the deposition testimony and the accident scene photographs. The ATD was placed between the rear edge of the Toyota Tundra (with the tailgate down) and the front of the Chevrolet van. The ATD faced forward, towards the front of the Toyota; see Figure 2. The regions of contact between the ATD and the tailgate of the Toyota and the ATD and the van were set to match Ms. Manfred's deposition testimony, the evidence from the medical records, and placement with the human surrogate; see Figure 3. For each test, the Chevrolet van was accelerated toward the ATD until it reached its maximum speed at the contact point with the ATD. Based on the test results of Mr. Guthorn from his inspection and testing at the accident location, the Exponent tests were run with two Chevrolet van speeds (approximately 0.8 and 1.4 miles per hour) and two transmission conditions (in "Neutral" and "Drive").

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**Figure 2.** Exponent testing setup. The ATD was placed between the rear edge of the Toyota Tundra (with the tailgate down) and the front of the Chevrolet van. The ATD faced forward, towards the front of the Toyota.

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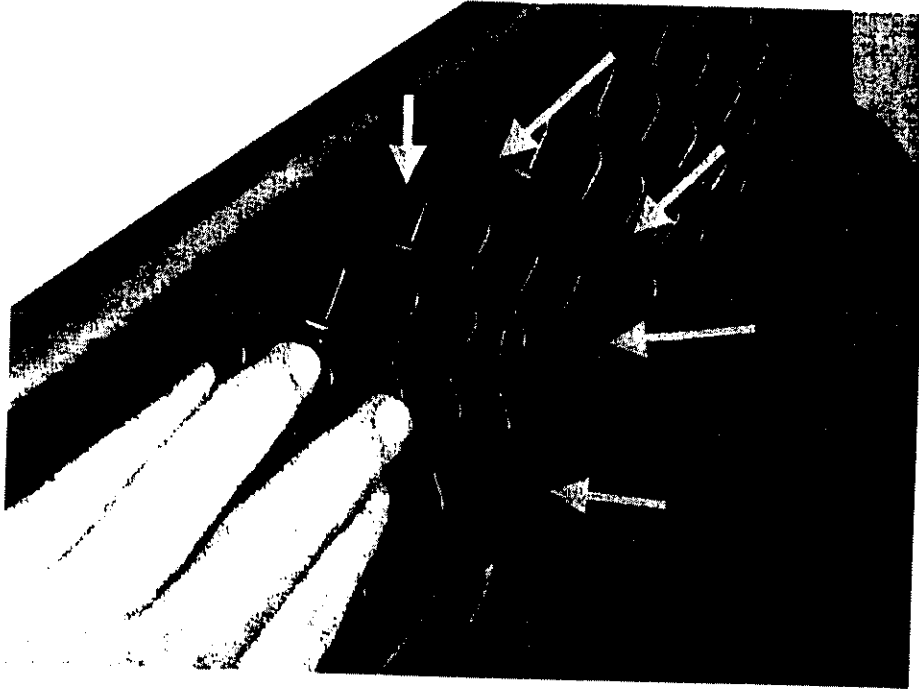
**Figure 3.** The placement of the (left) surrogate and (right) the ATD during the Exponent testing

**Table 1.** Summary of Exponent testing

Trial	Van speed at ATD contact (miles per hour)	Van transmission setting	Knee contact with Toyota's bumper?	Lumbar spine compression (lbs)	Van grille damage?
1	0.79	Neutral	No	81	No
2	1.43	Neutral	No	101	Minor
3	1.34	Drive	No	118	Major
4	0.75	Drive	No	105	Major

In addition to the measurements of the lumbar loads and knee kinematics, the results of the tests showed that the grille of the van was the most compliant vehicle element. Also, when the van was in drive and compressed the ATD for longer than 0.5 seconds, the grille sustained major damage; see Figure 4. A new grille was installed on the Chevrolet van between test trials 3 and 4 because of the grille damage. In addition, a new grille was installed after test trial 4 (before returning the Chevrolet van to the rental company) because of damage similar to that in test trial 3.

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**Figure 4.** Damage to the Chevrolet grille after the testing trial 3; not all grille damage is shown in this photograph. The plastic grille broke along the lattice network and the middle (horizontal) section, continuing under the Chevrolet symbol in the middle of the grille. The yellow arrows point to some of the grille damage.

## Biomechanical Analysis

The accident of March 19, 2005, was evaluated from a biomechanical engineering perspective to assess the motions and forces experienced by Ms. Manfred during the subject accident, and to determine whether the subject accident could have caused or exacerbated Ms. Manfred's knee and lumbar spine pathologies. This evaluation involved a scientific assessment of the subject accident using biomechanical studies of human tissue mechanics and tolerance to forces, biomechanical testing, and from biomechanical models of the body. The evaluation also involved a detailed review of Ms. Manfred's medical records proceeding and subsequent to the subject accident.

Ms. Manfred's kinematics during the subject accident were determined from the deposition testimony and information collected during the site inspection, surrogate study, and testing at Exponent's TEC. During the subject accident, the approaching Chevrolet van first contacted Ms. Manfred at the back of the mid thigh with the upper portion of its front bumper (see Figure 3 above, which shows the surrogate). As the van continued to move forward, the bumper contact caused Ms. Manfred's knees and pelvis to flex before the plastic grille of the van

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contacted Ms. Manfred's upper thigh, buttocks, and back. At this point, Ms. Manfred entered a partially seated position on the front bumper of the van. Continued forward movement of the van resulted in compression of Ms. Manfred's pelvis, hips, and upper thigh between the back edge of the Toyota's tailgate and the grille and, to some degree, the front bumper of the van. The grille of the van continued to deform inward, wrapping around and increasing the contact area between the grille and Ms. Manfred. This permitted Ms. Manfred's pelvis to flex around the tailgate, placing her in an almost completely seated position on the top of the front bumper of the van. Ms. Manfred's legs would have continued to move forward under the tailgate of the truck; however, Ms. Manfred's patellae (kneecaps) would not have contacted the Toyota.

The contact areas and kinematics during the Exponent testing were consistent with Ms. Manfred's account of the accident. At her deposition, Ms. Manfred described the regions of her body that contacted each vehicle during the subject accident. During the Exponent testing, those same areas of the ATD contacted the exemplar vehicles; specifically, the tailgate of the Toyota Tundra contacted the ATD at the level of the pelvis and hips and the front bumper and grille of the Chevrolet van contacted the ATD at the posterior side of the right calf, knee, hip, and buttock. Also, Ms. Manfred testified that the van contact lifted her off of the ground. In the Exponent tests, the ATD assumed a seated (or near seated) position on the front bumper of the van and the feet of the ATD raised off the ground slightly. The Exponent tests simulated well the subject accident.

While the overall motions of the Exponent testing are consistent with Ms. Manfred's testimony, the physical evidence from the Exponent testing indicates that at least one aspect of her testimony is inaccurate. Ms. Manfred testified that the van took about five to ten seconds before it released her. From the surrogate study at the accident site and the Exponent testing, it is highly unlikely that the van compressed Ms. Manfred for that long. Had the Chevrolet van compressed Ms. Manfred for more than 0.5 seconds while in "Drive", there would have been damage to the front grille of the van; there was no record of property damage to the van and, during a telephone conversation with me, Mr. Greenrock indicated that there was no damage to the van. Furthermore, during the tests with the van in "Neutral" compression lasted less than 1.0 second. It is highly likely that Ms. Manfred was compressed between the two vehicles for less than a second.

The duration of compression also provides evidence for the transmission setting of the Chevrolet van when it contacted Ms. Manfred. There was major grille damage during the Exponent tests with the van in "Drive" as it contacted the ATD. This damage occurred after the grille deformed to its maximum elastic deformation, which took less than 0.5 seconds. There was no damage or minor damage (i.e., damage that was barely noticeable) during the Exponent tests with the van in "Neutral" as it contacted the ATD. The overall compression times for these test trials were less than 1.0 second. This includes the time to compress and decompress the grill of the van. Based on the damage to the grille in the Exponent tests, the analysis and discussion with Paul Guthorn, M.S.M.E., P.E., and the scientific literature on human response times, it is

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highly likely that the Chevrolet van was in "Neutral" at the time of contact or the van was placed into "Neutral" (by Mr. Greenrock) soon after contact with Ms. Manfred.

The forces experienced by the right patellofemoral joint and lumbar spine of Ms. Manfred were a function of the direction and magnitude of the applied external forces on Ms. Manfred's body. In this case, the external forces were applied by the tailgate of the Toyota Tundra and the front of the Chevrolet van. Initially, the van imparted a forward force on the posterior portion of Ms. Manfred's right hamstring and knee. After this initial force on the posterior of the right knee, all compression (mostly in the fore-aft direction for the vehicles) of Ms. Manfred was applied at the level of Ms. Manfred's hips. Specifically, the Toyota's tailgate applied a compressive force to the anterior portion of the pelvis (at hip level) and the superior femur. The front of the Chevrolet van applied a compressive force to the posterior gluteal region (upper thigh and buttocks) and possibly a fore-aft compressive force at the upper superior pelvis. This load direction on the lumbar spine had a small component along the superior-inferior (vertically up and down along the body) axis and provided insignificant development of compressive forces in the lumbar spine.

#### *Lumbar Spine Analysis*

The subject accident did not provide a suitable mechanism to create Ms. Manfred's lumbar spine pathologies. As demonstrated in the Exponent tests, the subject accident produced little force in the lumbar spine. Vertical compression of the lumbar spine, i.e., the direction of force associated with the formation of disc herniations, was very low. To put this magnitude of force in context, the vertical compression on Ms. Manfred's lumbar spine during the subject accident was approximately the same as when she walks at a slow speed; see Table 2 below. Furthermore, walking produces this magnitude of compression with every step (repetitive loading), while the subject accident was a single loading event. The largest component of force in the subject accident was in the anterior direction, which would be associated with damage to the facets before any damage could occur in the intervertebral disc. Ms. Manfred had no diagnosed facet damage in her medical records. Based on the magnitude, direction, and the fact that the subject accident was a single loading event, there was no mechanism to create Ms. Manfred's lumbar spine pathologies in the subject accident.

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**Table 2. Lumbar spine compressive loads during selected activities**

<b>Activity</b>	<b>Low Back Load (lbs)</b>
Standing	41
Standing with surfboard	53
Leaning to side while seated	76
Driving	83
<b>Subject Accident</b>	<b>101</b>
Walking	167
Getting up from a beach chair	184
Snowboarding and surfing stance	201
Carrying groceries (20 lb)	264
Removing items from bed of pickup truck (10 lbs)	274
Running	276
Throw/pull during jujitsu	305
Bending over	322
Lifting a child (30 lb)	376
Bending over with surfboard	427
Lifting garbage bag (50 lb)	478
Bending to pick up 30 lbs of computer equipment	535
Making a bed (maximum value)	900

In addition to the above analysis, biomechanical studies have shown that in the absence of damage to adjacent bony structures, disc herniations or bulges such as those present in Ms. Manfred's lumbar spine do not occur as a result of individual loading events. Ms. Manfred's medical records following the subject accident do not contain any findings of acute bony damage to the spine. Within physiological ranges of motion of the spine, disc herniations without adjacent bony damage have been produced experimentally only through repetitive compressive loading for thousands of cycles, through what is known in engineering terms as a fatigue process.

Results from the Exponent tests were used to estimate compressive loading on Ms. Manfred's low back during the subject accident. The results indicated that these loads were substantially less than what she experienced during her everyday activities. For example, bending over, carrying 30 pounds of computer equipment, carrying groceries, bending over while carrying a surfboard, getting up from a chair, and lifting a garbage bag result in compressive forces more than 3 times greater than what she experienced during the subject accident (based on Exponent tests with the Chevrolet van in "Neutral"). Furthermore, Ms. Manfred indicated during her deposition that she ran several miles a day, participated in jujitsu, snowboarded, and surfed regularly prior to the subject accident. All of these activities would have subjected Ms. Manfred's low back to loads substantially greater than what she experienced during the subject accident. Additionally, the surveillance video taken after the subject accident shows Ms. Manfred bending over and participating in activities in which the compressive lumbar spine

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loads were greater than what she experienced during the subject accident. The results of this analysis demonstrate that the forces experienced by Ms. Manfred's low back in the subject accident were less than the forces that she experienced repetitively during her activities of daily living. It is more likely that Ms. Manfred's lumbar spinal pathologies are the result of her active lifestyle prior to the subject accident, which subjected her low back to repetitive compressive loading.

Because the forces on Ms. Manfred's lumbar spine during the subject accident are indistinguishable from the forces on her lumbar spine during her activities of daily living, it is scientifically impossible to draw a causal relationship between the subject accident and Ms. Manfred's lumbar spine pathologies (or complaints related to these pathologies). Based on this analysis, within a reasonable degree of scientific probability, the subject accident provided no mechanism for lumbar spinal injury or exacerbation of any existing lumbar spinal pathology that Ms. Manfred may have had before the accident.

#### *Right Patellofemoral Joint Analysis*

Approximately one year subsequent to the subject accident, Ms. Manfred underwent surgery on her right knee. The surgeon documented grade II chondromalacia of her patella. According to the scientific literature and discussions with Tack Lam, M.D., Ph.D., chondromalacia is characterized by the irregular appearance of cartilage on the retropatellar surface. This condition has been documented in the medical literature to be commonly associated with long distance running. The etiology is not fully understood, but repetitive loading of at the patellofemoral joint is thought to result in the subtle wearing of the retropatellar cartilage over time. Traumatic damage of patellar cartilage can occur from large, impulsive loads to the anterior surface of the patella (for example, striking a dashboard during a high-speed frontal accident).

The subject accident did not provide a suitable mechanism to create Ms. Manfred's patellofemoral joint pathologies. Based on the deposition testimony, site inspection, surrogate study, and Exponent testing (all outlined above), the subject accident provided no mechanism for significant force to be transmitted to Ms. Manfred's right patella. During the accident, the front bumper of the Chevrolet van contacted Ms. Manfred's hamstrings and then the posterior (towards the back) portion of the knee. The van would not have been able to contact the patella directly. The Exponent testing demonstrated that Ms. Manfred's knees did not contact any element Toyota Tundra as a result of the subject accident. During the accident, Ms. Manfred's quadriceps (and the tissue surrounding the patella) may have generated a force at the patellofemoral joint; this force would occur during knee extension without any significant resistance to tibial motion and can be conservatively bound at 58 pounds. Because there was no patellar contact with external structures in this accident, the subject accident did not generate the force required for traumatically induced patellar damage. The subject accident provided no mechanism to produce injury to or exacerbate existing pathologies of the retropatellar cartilage.

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Ms. Manfred's knee pathology was most likely the result of her lifestyle prior to the accident. Ms. Manfred testified that she ran three to five miles a day prior to the subject accident. She ran in the 24<sup>th</sup> Annual Super Run 10K Run/Walk in San Diego, California on February 5<sup>th</sup> of 2005 (<http://www.kathylopererevents.com/results/2005Super10.htm>, which was accessed on June 26, 2007), a few weeks before the subject accident. She also snowboarded the day before the subject accident. The biomechanical literature shows that the patellofemoral forces developed during Ms. Manfred's activities, such as squatting during snowboarding, climbing stairs, and running, regularly exceed several times her body weight; see Table 3. The patellofemoral forces during these recreational activities are much larger than the patellofemoral forces in the subject accident. In addition, regular kneeling and squatting have been shown to be risk factors for cartilage tears. It is highly likely that Ms. Manfred's complaints of knee pain in her post-accident medical records are due to her active lifestyle, and not the subject accident.

**Table 3. Patellofemoral joint loads during selected activities**

<b>Activity</b>	<b>Patellofemoral Joint Load (pounds)</b>
Subject Accident	58
Walking	58
Stair climbing	380
Rising from chair	412
Running	644
Squat (ascent)	833
Squat (descent)	868
Jumping	2300

It is interesting to note that the emergency room records from the day of the subject accident document bruising on Ms. Manfred's knees and indicate that Ms. Manfred stated to the nurse that these bruises were from snowboarding the prior day.


Because the forces on Ms. Manfred's right patellofemoral joint during the subject accident are indistinguishable from the forces on her patellofemoral joint during her activities of daily living, it is scientifically impossible to draw a causal relationship between the subject accident and Ms. Manfred's patellofemoral joint pathologies (or complaints related to these pathologies). Based on this analysis, within a reasonable degree of scientific probability, the subject accident provided no mechanism for patellofemoral joint injury or exacerbation of any existing patellofemoral joint pathology that Ms. Manfred may have had before the accident.

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## Conclusions

Based on the analyses presented above, the forces and motions that Ms. Manfred experienced during the subject accident were not of the nature and magnitude to cause injury to or exacerbate pre-existing pathologies of Ms. Manfred's lumbar spine or right knee. The opinions in this report, based upon the materials reviewed and the education, experience, and knowledge of the author, are presented with a reasonable degree of mechanical engineering, biomechanical engineering, and scientific probability. As more information becomes available, this report may be amended.

Sincerely,



Irving Scher, Ph.D., P.E.  
Managing Engineer

Licensed Mechanical Engineer, #M32908  
by the California Board for Professional Engineers and Land Surveyors

**Case No: VC-06-06208 GGN**

**Manfred, et al. vs. Greenrock, et al.**

**EXHIBIT 4**

**ORANGE ORTHOPEDIC MEDICAL GROUP, INC.**

PROVIDENCE BUILDING  
1310 W. STEWART DR. • SUITE 310  
ORANGE, CALIFORNIA 92668-3888  
(714) 538-8548  
FAX (714) 538-1547

**MICHAEL W. ABDALLA, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOW, AMERICAN ACADEMY OF ORTHOPEDIC SURGEONS

**MILTON E. LEGOME, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOW, AMERICAN ACADEMY OF ORTHOPEDIC SURGEONS  
FELLOW, AMERICAN COLLEGE OF SURGEONS

**KEVIN J. TRIGGS, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOW AMERICAN ACADEMY OF ORTHOPEDIC SURGEONS

**ERIC W. LEE, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOWSHIP TRAINED, SPORTS MEDICINE

**AYAZ A. BIVJI, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOWSHIP TRAINED, JOINT REPLACEMENT SURGERY

June 14, 2007

Ashley R. Leach, Esq.  
Wilson, Elser, Moskowitz, Edelman & Dicker, LLP  
555 South Flower Street, Suite 2900  
Los Angeles, CA 90071-2407

RE: Kimberly Manfred  
Manfred vs. Greenrock  
F/N: 02401-0026  
D/L: 05/19/05

Dear Ms. Leach:

Thank you for referring Kimberly Manfred to the office for an Independent Medical Examination concerning her claims of musculoskeletal injury purported to be subsequent to a motor vehicle versus pedestrian car accident from 05/19/05. The entire examination was witnessed by substituting attorney Walter K. Childers, Esq.

Part of the initial history has been obtained by Alicia Kort and then confirmed in detail by myself.

A small collection of medical records, obviously incomplete, and radiographs, have been received under separate letter cover.

**HISTORY OF INJURY:**

The patient is a 35-year-old Asian female who elects not to fill out a patient information sheet.

The patient states that on 05/19/05, she was parked and standing behind her SUV in front of a Las Vegas Hotel. The patient states that her tailgate was dropped and

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she was standing upright and slightly turned to her right. She then states that as she was unloading her automobile, a van behind her was left unattended and started to roll forward and struck her from behind. She states that she was struck on the back of the right leg and buttock and was pinned between the two automobiles. On my attempts at clarification, it does not appear that she was pinched between the leading edge of the dropped tailgate and the van. She does not know how long she was "pinned".

Because of her initial complaint, she was taken by ambulance to a Las Vegas Emergency Room. She cannot recall if she was on a spine board or if a cervical collar was applied. She is unsure of what body parts painful immediately after the other car was moved.

She presented to the Las Vegas Hospital Emergency Room with complaints over the entire right leg up towards the buttock. She will not divulge the emergency room treatment.

A few days after the accident, she presented to her longtime PCP Dr. Kaura. She presented with complaints about the right leg. It is unclear if any medication was provided. She was referred to physical therapy and eventually to orthopedist Dr. Wrobel. Her symptoms got worse in the initial treatment.

She only had a single consult with a physical therapist in Aliso Viejo. She states that they could not do anything for her, because she was in too much pain.

She eventually presented to Dr. Wrobel with pain in her right leg and difficulty walking. She also had developed some right-sided low-back pain. She was referred by Dr. Kaura. He believes that she treated with him for only less than one month. During that time, she had a MRI scan of the lumbar spine. The overall symptoms remain the same.

She was referred by Wrobel to "back specialist" Dr. Tran. She saw him over several months with complaints of back pain. Treatment was pain management and referral for a right ankle brace.

She was eventually referred to Orthopedic Surgeon Dr. Amjadi and estimates it as the summer 2005. She saw him over one to two times a month for the remainder of the year. Her primary complaints were low back and a more localized area of right knee pain. She believes that she eventually had an MRI scan for the right knee. She believes that she had cortisone injections. She recalled that he may have referred her for physical therapy. The overall symptoms remain the same, if not worse, and eventually there was a suggestion for low back surgery.

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She was referred by Dr. Amjadi to Aliso Viejo Physical Therapy and attended for approximately three times a week for two months. The primary complaint was low-back pain. She remembers electrical stimulation and massage. She does not remember if there were any exercises nor stretching. It was suggested that she attempt swimming. She states that the symptoms were a little bit better and helped her to walk better.

In the beginning of 2006, she was referred "through insurance" to neurosurgeon Dr. Jackson. She saw him approximately four occasions over two months with complaints of low-back pain and right knee pain. She had right lower extremity neurological studies and a prescription for anti-inflammatories. She believes that symptoms were improving on an intermittent basis.

In April 2006, she was referred by her boyfriend to Orthopedic Surgeon in Newport Beach Dr. Aflatoon. He continues to be her primary treater. He believes that he may have ordered a second MRI scan of the low back. She then eventually had lumbar surgery in May 2006. She states that her preoperative symptoms included right lateral lumbosacral pain into the upper buttock and estimates this as 50/50 to possibly 70/30. She also had right leg pain down to the level of the toes. She believes most of the pain was localized around the knee.

Unfortunately, the patient apparently required a second surgery, two weeks after the first surgery, due to infection. She underwent a debridement.

Postoperatively, the patient was referred to physical therapy. She also required pain medications. Eventually, she also was referred for acupuncture and massage therapy. She eventually had a lumbar epidural steroid injection in April 2007. She was also referred to another orthopedist to evaluate her right knee. Overall, she felt that the surgery made her symptoms worse. She believes that she may be improving this year, but then states that her symptoms are actually getting worse again over the last couple of months.

Additionally, the patient was seen by Orthopedist Dr. Kreitenberg in summer of 2006. She is unsure how she was referred. He is still treating her and sees her approximately one time per month. Her primary complaint with Dr. Keitenberg has been the right leg and right knee. She believes that he requested an MRI scan of the right knee as well as a bone density test. Dr. Kreitenberg also referred her for a second opinion with orthopedist Dr. Greenfield. The patient received a right knee cortisone injection by Dr. Greenfield but she does not remember if it was helpful. In September 2006, Dr. Kreitenberg performed right knee arthroscopy. She was told that her "cartilage was roughed up" and that she had a partial PCL tear. Postoperatively, she used crutches after surgery and was referred to physical therapy. She states that her knee symptoms appeared to improve, but then got worse again over the last three months. Physical therapy was through Rancho

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Santa Margarita and was referred by Kreitenberg. She has been going there since September 2006, attending two times a week, after the initial three times a week for the first couple of months. Therapy has been directed to both the right knee and the low back. It has included wall squats, supine hamstring curls, bike, shuttle, electrical stimulation and ice, possible lumbar traction, Pilates, elliptical machine, stretching, massage, heat, adjustments and biofeedback. She felt that her symptoms were improving towards the end of 2006, but now are getting worse once again.

After her low back surgery, the patient states that her right leg pain was decreased by 50% and that her low-back pain was possibly helped a little.

**WORK HISTORY:**

The patient will not answer.

**PAST HISTORY:**

The patient will not provide any detail.

**INTERVAL ACCIDENTS:**

The patient states that she has had no injuries since the subject accident.

**CURRENT COMPLAINTS:**

The patient complains of a deep irritating nerve pain on the right side of her low back approximately at the waistband level radiating out towards the right hip. It is associated with an achy muscle spasm down into the gluteus. It can also be associated with a sharp shooting pain down the posterior right leg to the anterior calf and intermittently into the toes. She is unsure how long the right leg pain can last. She states that it does not occur daily, but when it occurs, it can be anywhere from days to weeks. The low back pain is constant and considered moderate-to-severe. There is numbness and tingling down to the right leg especially with sitting. Low back pain and right leg pain can be made worse with sitting, supine, or walking. The pain in the low back can be decreased with ice/heat, rest, Vicodin, Motrin, back brace, heat wraps, massage, or an analgesic.

The patient also has complaints about the right knee pointing to the anterior and posterior aspect down towards the proximal calf. She describes it as moderate-to-severe, but intermittent. It is increased with sitting, walking, standing, bending/squatting, or stairs. The range of motion is considered to be within normal limits with pain on full flexion and extension. She has a grinding sensation over the anterior knee, which can be painful. She denies any locking nor

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giving way. She does not have any obvious swelling. The pain is decreased with elevation, ice, tennis ball massage, patellar taping, tennis shoes with inserts, Vicodin, or ibuprofen.

### **CURRENT TREATMENT:**

The patient wears a back brace approximately one time per week. She uses daily patellar taping, which she applies on her own. She attends physical therapy approximately two times a week. There is a home exercise program including gluteal squeezing in the supine position. She does bilateral knee-to-chest in sets of 10. She uses a supine Swiss ball to the level of fatigue. She does figure-of-four stretching as needed. She does calf pumping. She does swimming if she can tolerate. If she has less pain, she can use a bicycle up to five minutes. She also attempts walking on a p.r.n. basis. She uses Vicodin one to two pills a day depending on pain. She uses 2000 mg of Motrin and possibly more if there is more discomfort. She uses low back heat wraps. She continues to undergo acupuncture with Dr. Myung, attending three times a week.

### **PHYSICAL EXAMINATION:**

Height 5'2-1/2" and weight 120 pounds.

On observation, the patient appears to move stiffly and appears to be uncomfortable. She is not wearing a back brace nor using an aid. She appears to arise from a chair stiffly and climb upon examination table with some discomfort and stiffly.

Inspection of the low back shows that she has a well-healed midline approximately 4 cm incision in the lumbar spine. There is no keloid and no sign of any fluctuance. Tenderness is all right-sided. There is no paralumbar spasm. Sciatic notch tenderness slight/absent. The lumbar motion is flexion to approximately 60 degrees. Recovery is without the use of hands to 10 degrees. Side bend is fingertips slowly to above knee/above knee. The seated hip range of motion is without referred back pain. It includes IR 45/45 degrees and ER 45/45 degrees. The single supine leg raise bilaterally is done with slight low-back pain. The patient attempts double supine leg raise, but it is incomplete due to the back pain. Figure-of-four bilaterally is without focal ipsilateral sacroiliac pain.

Inspection of the lower extremities show that she has patellar taping over the right knee. I do not detect any obvious effusion nor focal soft tissue swelling. The patient has well healed arthroscopic portals. Q-angles are symmetric and considered normal. Range of motion right/left, knee extension 0/0 degrees and flexion 120/125 degrees. There is slight apprehension on patellar manipulation. There is slight subpatellar tenderness. I detect no objective crepitus. The patient

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has diffuse anteromedial knee pain, but it also includes the femoral condyle and medial peripatellar area. There is certainly no focal medial joint line tenderness. The varus and valgus laxity is considered physiologic. The anterior drawer is negative/negative, posterior sag negative/negative, posterior drawer negative/negative, and there is no evidence of posterolateral insufficiency on stress exam. There is no popliteal mass and the calf is nontender.

Neurological examination includes reflexes right/left knee jerk 2+/2+ and ankle jerk 2+/2+. Sensation is currently intact to light touch. Motor exam appears to be 5/5 with slight giving way on right quad and right tibialis anterior with a small element of back pain. Circumference measurements right/left, calf 35/34 cm and 44/45 cm. Biceps 27.5/26.5 cm and forearm 22/21 cm. Grip strength right/left 49/41, 43/45 and 50/39.

**X-RAYS:**

None obtained.

**ASSESSMENT:**

Status post motor vehicle accident versus pedestrian accident, 03/19/05:

1. Incomplete medical records: Tiffany Tran, M.D., Sunrise Medical Center (Las Vegas), 1992. Motor vehicle versus bicycle accident, deposition Kimberly Manfred, Shanthi Ravi, a hardcopy lumbar MRI scan, Laguna Niguel on 04/13/05.
2. Undefined accident forces.
3. Claims of onset, right low back, buttock, and lower extremity pain.
4. No evidence of injury event right knee joint.

Unrelated:

1. History of increased low-back pain during menstrual cycle.
2. Chronic gastrointestinal complaints, likely inflammatory bowel syndrome.

**DISCUSSION:**

I would like to hold off on formulating final medical opinions until I have had the opportunity to review the above-requested medical records.

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Based upon the records that have been made available to review, it appears that the pre-accident records do not support any chronic ongoing similar complaints in a reasonable time that precedes the subject accident. There is a presentation in September 2004, when the patient describes low-back pain for many months. They appear to be related to her periods. There is no radicular component. This history even dates back to 2002, when the patient first presented to PCP Dr. Kaura, where she presents with severe menstrual symptoms and had an episode in which she had severe leg pain with difficulty walking. Absent from these records, however, is any referral to a gynecologist. I personally have seen young women who have severe menstrual low-back pain, and the gynecologic diagnosis must always be considered when evaluating chronic intermittent back pain. This is especially true within the female patient population who also may have an underlying condition of endometriosis. Inflamed extrauterine endometrial tissue, when dispensed through the pelvis, can intermittently also deliver nerve root irritation with symptoms radiating down the leg.

The mechanism of injury certainly makes it difficult for me to appreciate the claims of injury to the low back or to the right knee. The patient is short and thereby I would imagine that the horizontal rear door of a Toyota Tacoma, would strike her above the waistline. There does not appear to be a pinching etiology to account for her complaints. The patient does demonstrate some bruising on examination with the early medical providers. Hopefully, the records from Sunrise Medical Center emergency room in Las Vegas will be better able to delineate the exact area of impact. Nonetheless, this mechanism of injury is unusual and could not deliver a pinching direct blow to the right knee. I understand the patient has an appreciation that she suffered a PCL injury with this accident, and I can only state that to be struck from behind is not the mechanism of injury to deliver a PCL injury. Posterior cruciate ligament injuries typically occur when there is a direct anterior blow from the front of the patient's body.

It does appear that the patient presents after the subject accident with consistent complaints about the right leg from anywhere proximal to the buttock and anywhere distal to the knee. It is variable. The eventual workup apparently has revealed what appears to be a large disc herniation at L4-5. This is a surprising diagnosis, especially since I have had the opportunity to review a later MRI scan and I have not been impressed by any unusual lumbar pathology.

The patient has L4-5 disc space desiccation, but it is only slight when compared to the other levels. This desiccation is a known effect of ageing. The disc bulge on this 11/02/05 lumbar MRI scan is certainly not impressive. For some reason, it appears that the patient has another lumbar MRI scan on 12/02/05 from Laguna Niguel MRI and it is compared to the previous MRI scan from 04/13/05. Obviously, it will be important to have the opportunity to review all of the

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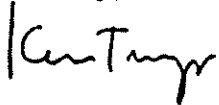
hardcopy MRI scans at the same time in order to appreciate, why there appears to be such an anatomic difference in the reports of those studies.

I am able, however, at this time to voice an opinion regarding the patient's right knee. The patient does not have any internal derangement. The mechanism of injury is not consistent with a knee injury. There is no effusion or localizing signs on the early examinations by medical providers. I have the opportunity to review the hardcopy MRI scan of the right knee from 01/28/06, and I am puzzled by the apparent post MRI interpretation by medical providers. If there was a PCL tear, this is not noted within the report by the radiologist. Most importantly, however, is that the patient never demonstrates any physical findings consistent with a PCL injury. I believe that some of the medical providers are incorrectly identifying a PCL injury based upon the hardcopy MRI scan, in which there is a segment of the ligament, which does not have a signal. Someone may interpret it as a tear when it could very simply be a cut through a buckle in the PCL. Nonetheless, I mention every day to patients that we as orthopedic surgeons must treat people rather than MRI studies. The patient does not demonstrate PCL injury based upon the mechanism of injury, examination findings, nor subjective complaints. The intraoperative findings encountered by Dr. Kreitenberg are routinely present with an athletically active female patient. There is nothing within this knee scope to suggest that there was a traumatic condition.

On today's Independent Medical Examination, the patient is obviously status post lumbar surgery. There are no objective neurological deficits. There is nothing surprising on the exam. The knee does not deliver any evidence of laxity nor focal findings. The overall complaints do not lend themselves to an easily identifiable diagnosis. There are no circumference measurement differences to suggest the lack of use of the right lower extremity.

I look forward to have an opportunity to review the additional medical records.

Very truly,



Kevin J. Triggs, M.D.

D: 06/18/2007 T: 06/19/2007 ID: OOLM0500061807140231  
RMB/MRR

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### REVIEW OF MEDICAL RECORDS

**South Coast Medical Center:** The only collection is of radiograph reports. They include a right foot x-ray 02/11/03 and it is normal. It is requested by Maya Kaura, M.D. The history is "30-year-old with trauma and pain."

On 09/27/04 there is a five-view lumbar spine x-ray with indication of chest pain and back pain. It is requested by Dr. Kaura and it is negative.

On 12/27/04 there is a left ankle x-ray revealing lateral soft tissue swelling. It is requested by Dr. Kaura with clinical history "ankle injury."

**Sunrise Hospital Emergency Room - Las Vegas:** This is only a billing report and it appears to be for the Radiology Interpreting Services from 03/19/05. It suggests that a venous ultrasound was performed. Also suggested a hip and femur x-rays, were obtained. The overall professional charges are reimbursed at \$193 for four services and it states that it was at a contracted rate.

**Robert Jackson:** It appears that this initial neurosurgical evaluation is performed on 02/15/06 and was referred by Firooz Amjadi, M.D. The history section notes the van injury. He states that the patient had seen Bradley Tran, M.D., who recommended epidural steroid injection, but the patient declined. Also states that Dr. Amjadi had performed a right knee injection, but she continued to have pain. Presenting complaints included low-back pain greater than right leg, but her right leg prevents her from doing activities, but it does state that "at times, she has no pain." Symptoms are increased with sitting. Overall, she feels her pain is decreased by 60-70% over the last 10-11 months. He states that an MRI scan had revealed L4-5 disc degeneration and a small right L4-5 disc bulge. It appears that it has been recommended that she have anterior posterior decompression and fusion and that recommendation was made by Dr. Amjadi. He denies numbness or tingling in the left lower extremity. He states that she is currently on disability. Previously had worked for Cox Communications as a business technical support for digital Internet. A review of systems is only positive for mild neck stiffness. On physical examination, states that she has right quad strength 4/5 and right TA 4/5 with giving way. Her sensation is "slightly altered around the right knee." Reflexes are normal.

There is a review of an MRI scan lumbar spine 11/02/05, which is interpreted as a small 4-5 mm disc protrusion right L4-5 with foraminal compromise and some L4-5 disc degeneration while the others are normal. The initial assessment is lumbar radiculopathy with neuropathic pain. The recommendation was for nerve

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studies. Also, recommendation of epidural steroids. She is asked to followup after the nerve studies.

Within the collection of records, is an MRI report 01/18/06 of the right knee performed at Laguna Niguel, MRI is requested by Firooz Amjadi, M.D. This is a 1.5 Tesla study. Its finding concludes a mild-to-moderate joint effusion, but otherwise is normal. Specifically, there is no fracture nor contusion, ligament damage nor meniscus damage.

Per report, there is an electrodiagnostic study performed on 03/09/06 done by Caroline Choan, M.D. The report suggested that the nerve studies are normal while the EMG is normal and there is a mention of "very early" changes within the L4 myotome suggestive of an early right L4 radiculopathy. The apparent support includes "very few motor units with increased duration and mild polyphagia," "slight decreased recruitment," "and increased in insertional activity" seen at the right rectus femoris, vastus lateralis, adductor magnus and tibialis anterior. These were performed at Saddleback Valley Neuroscience Medical Group.

It appears that the overall charges for this initial visit are \$275.

There is an EDD paper work in which the disability is extended through 05/01/06. The part filled out by the patient states that it started on 03/19/05.

It appears that a followup was scheduled for 03/21/06, but that was not kept.

**Tri City Regional Medical Center-Billing:** These are charges for surgery on 05/24/06. It appears to be for that day only. Cultures are obtained. The overall charges are \$16,899 for what appears to be an outpatient surgery.

**Advanced MRI and CT of Escondido:** The patient presents for an MRI on 07/25/06. This is of the lumbosacral spine. The patient paperwork states that the problem first begun on 03/19/05 with a personal injury accident. Back areas of pain include pelvis, right knee, and low back. She states she had a bone scan on 07/24/06. She states that she has had a previous MRI on 01/18/06 of the right knee. She states that her surgery was performed on 05/10/06 in Hawaiian Gardens by Dr. Aflatoon. Report of the scan shows she is status post right L4-5 hemilaminotomy with partial discectomy. There was a postoperative collection of fluid, although abscess could not be ruled out. Fluid collection measured 3 cm. There was granulation tissue at L4-5 with no evidence of stenosis. There is no mention of any recurrent disc herniation. There is also an MRI of the pelvis performed on this date and this is considered to be normal.

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**Interventional Pain Management Medical Group:** These are anesthesia records and charges for surgery on 09/19/06. It appears to have been a right knee arthroscopy and the overall anesthesia charges are \$1650. There is no reconciliation. These surgeon times are 50 minutes. There is no operative report. There is a mention of past history of IBS.

**Rancho Santa Margarita Physical Therapy:** There are medical records, which suggest that the patient began the therapy in 2006. There is a report from 10/23/06 directed to Dr. Kreitenberg after the right knee arthroscopy. Her initial knee range of motion is 0-100/0-135. It appears that she was been seen in the past for her lumbar sacral. It will be interesting to see if this is included. It appears that the patient complains of principally early pain with more prolonged complaints of weakness as she extends into 2007. There is mention on 12/18/06 that she drove to Las Vegas and increased her knee pain. It appears that she was seen up until 02/28/07. There is a progress note on 01/29 stating that she has improved, but she continues to have some difficulty with respect to the right knee. It is unclear if it may be coming from the back. It actually appears that the patient is seen through 04/04/07.

There is an operative note from the Miracle Mile Outpatient Surgery Center, which is in Los Angeles from 09/19/06. She states that John Greenfield, M.D., was used as an assistant. The apparent findings included mild synovitis, as well as grade II chondromalacia patella with no evidence on the trochlea. Medial compartment was considered normal. The text of the lateral compartment only shows that the "posterior horn of the lateral meniscus had some synovitis" there was no tear. In the postoperative diagnosis, there is a mention of mild PCL instability," but the posterior drawer was negative on EUA and the ROM was normal. He states that the proximal portion of the PCL "was noted to be normal," but it was also "noted that the tear was more in the distal aspect of the ligament" there was no abnormal motion with drawer.

It appears that the patient is seen concomitantly for the low back. It appears that the initial visit was on 10/17/06. The formal progress notes are directed to Kamran Aflatoon, D.O. There is mention on 01/08/07 that she had returned from a trip in Alaska. It appears that long drives tend to give her more discomfort. It appears that low-back pain is increased with menstrual cycle. It appears that she is seen through 04/13/07 for the low back. The overall charges for physical therapy appear to be \$9110. It appears that typical charges are variable in anywhere, but are typically \$140 per session. There are some dates in which it is \$225.

### **RADIOGRAPHS:**

There is a bone scan sheet from 07/25/06, it appears to suggest symmetric uptake in the pelvis and lower extremities. There is no area of focal increase.

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There is an MRI of the brain on 09/15/06 through the Encinitas MRI Center. My observation is not to reveal any focal brain lesion. There actually appears to be a MRA as there is vascular anatomy well outlined. There is no formal report.

There is a collection of records from Sunrise Hospital and Medical Center in Las Vegas. This includes a brain x-ray of the pelvis. It appears to be normal. The AP and lateral of the right femur is normal. It extends down to a normal appearing right knee. There was also some suggestion that there was a Doppler study performed as well.

There is an MRI of the right knee on 01/18/06. I see no evidence of any internal derangement. On the T-2 signals, there does appear to be more fluid than is typically seen on the sagittal view. There is a separation of the typical congruous signal of the PCL. I see no evidence of bone contusion.

There is an MRI of the lumbar sacral spine on 04/13/06, the axial cuts are certainly non-impressive for a disc bulge at L4-5. The sagittal T-2 images of the lumbar sacral spine are not impressive. There is a slight decrease at L4-5, but the disc height is maintained. There is a disc bulge at L4-5, but there is also one at L5-S1.

**Maya Kaura, M.D.:** According to some billing records, it appears that the patient was first seen on 04/12/02. There is a health questionnaire from that date and the patient notes a previous bicycle/car accident in 1992. The chief complaint is severe PMS with bloating, low-back pain, and constipation. Not on any medication. She has been self treating with Aleve and it also includes that few months ago, she had severe leg pain with inability to walk and her previous doctor gave her diuretics, presumably for her perimenstrual complaints. It appears that she is given hormones on this date.

There is a followup on 04/26/02 with increased PMS symptoms. There is a normal gynecological exam. She appears to have an abnormal PAP, undergoes a biopsy. She does have some GI complaints including GERD, and chronic constipation and bloating.

She is seen on 09/27/04 with low-back pain for many months with low intensity, but increased with periods. There is no radicular complaint and no neuro deficit. She is referred for the normal x-rays.

According to the billing records, there is no interval visit until 03/30/05.

There is a handwritten note from that date and she notes the accident on 03/19/05. She states that she was seen by Dr. Ravi on 03/23/05 and was given Vicodin. She presents with complaints of right leg pain from the hip to the ankle, it is worse below the knee. She states that she is unable to walk or sit. On physical

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examination, she is found to have ecchymosis over the right buttock and the back of knee and over the left medial knee. She has swelling with tenderness over the right calf without erythema. No mention of any knee exam. There is no mention of any assessment. She is asked to continue medications, start physical therapy and remain off of work.

There are handwritten notes to keep her off of work for brief periods.

There is a phone message on 04/04/05 from the patient. She has deep pain along the right knee with some numbness and tingling, and states that physical therapy has requested an orthopedic evaluation.

There is paperwork to suggest that the patient received medications through Tri-City Emergency Medical Group on 03/18/06. She is given a prescription for Vicodin.

There is a jump to progress notes in 2006, for sore throat and another for chest pain. There is another evaluation for chest pain and constipation in September 2006.

There is an x-ray on 03/23/05 at Saddleback Radiology requested by Shanthi Ravi, M.D. This is of the lumbar spine and it is considered normal.

There is a CT scan, angiogram of the lung on 03/18/06 (? during her emergency room visit at Tri-City) there is no evidence of pulmonary embolism.

There is evaluation by GI Nav Gujral, M.D., on 07/10/03. Chief complaint is constipation with long-term history of laxatives. Recommendation was for a BE and labs. There is some mention of inflammatory bowel disease.

There is an evaluation by Firoz Amjadi, M.D., from the South County Orthopedic Specialist. I find no letterhead. It states that he is a "Combined Neurosurgical/Orthopedic Fellowship Trained Surgeon" as well as Board Certified Orthopedic Surgeon. Evaluation is on 11/04/05 with chief complaint of right leg pain and low-back pain. Low back is 70%. It is may be slightly worse. Physical examination, there is tenderness over the lumbar sacral region with range of motion as 5 degrees of extension and 80 degrees of lumbar flexion. TA is 5-/5 and she has numbness in the L4 distribution. Right knee has no swelling and is stable. There is lateral joint line tenderness, but no patellar sensitivity. There is an MRI report, which indicates a right lateral disc protrusion at L4-5 measuring 6/10 mm, she agrees with the interpretation after reviewing the films. The recommendation was continue to with physical therapy and home exercise while also getting a right knee MRI scan. There is discussion regarding epidurals. There is a mention if the symptoms persisted then she may be a candidate for a fusion.

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There is a report from Kamran Alfatoon, D.O. on 04/12/06. Primary complaint is low-back pain into the right buttock and down the thigh to the right foot. He states that her review of systems are negative and her past history is negative. He states that she can toe and heel walk, but cannot squat due to right leg weakness. Her pupils are reactive. Thoracic spine is negative of the lumbar flexion is 40 degrees, but otherwise normal motion. She has mild tenderness in the lumbar region. She states that straight-leg raise is positive on the right side, but does not state what is present. Hip range of motion is considered normal. The patient has normal flexion and extension of the knee. The neurological exam have shown to have 4/5 Q, TA, and EHL. He states that the knee jerk is 1/2. Sensory is decreased to L5. Working diagnosis is far lateral L4-5 disc herniation per 04/13/05 MRI. Recommendation was for discectomy.

**Encinitas MRI and CT Center:** There is paperwork from 09/15/06. It appears to be for the MRI angiogram of the brain. The pain diagram includes neck, chest, low back, and right knee. This is requested by Andrew Blumenfeld, M.D., in Encinitas. Diagnosis is migraine. The MRA is considered normal. On the brain MRI, there is a 1.5 cm left frontal lobe lesion. It is felt to be a cavernous angioma.

**Sunrise Hospital and Medical Center - Billing:** This only includes the services for the bone scan on 07/25/06. There is a report that says right knee pain as the indication. It is requested by Dr. Alfatoon and the result is normal. It appears that the payment is \$122.

The Sunrise Hospital billings appear to be \$3311 including \$825 for the ultrasound, \$353 for the hip x-ray and \$423 for the femur.

**Tri-City Regional Medical Center:** There is an admission date on 05/11/06 with discharge 05/12/06. The admitting physician is Dr. Alfatoon. The history of cursory. The operation is a L4-5 laminectomy and discectomy with partial facetectomy at L4-5 and states that a discectomy was performed and the nerve was freed and the foramen was completely patent. It was then followed by a laminectomy. The progress notes do not include a visit the following day. Nursing notes suggest nausea and vomiting. She is found to have marked drainage on the middle of her dressing. She states she is using a brace and a walker. There is no mention of leg pain.

**South County Orthopedic Specialist:** This appears to include the records of Lance Wrobel, M.D. and Bradley Tran, M.D.

The initial visit appears to be 04/07/05 when the patient is seen by Dr. Wrobel. She states that she is not using the crutches. It appears that chief complaint is right knee along with pain from the buttock into the calf. She is found to have ecchymosis over the hamstring and the popliteal fossa. Her calf is tender as well

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as the thigh. Range of motion is 0-95 degrees. Anterior and posterior tests are negative. She has sciatic notch tenderness and straight-leg raising. Recommendation was right lower extremity soft tissue trauma along with rule out HNP. She is sent for an MRI of the lumbosacral spine.

MRI of the lumbosacral spine, Laguna Niguel MRI on 04/13/05. Interpretation is 6 x 10 mm right far lateral L4-5 disc protrusion.

The patient's information sheet includes pain diagram from the low back all the way down the level of the leg to the level of the toes. She rates the proportion as 50/50.

She was seen by Dr. Tran on 04/22/05. On physical examination, there is no ecchymosis in the buttock nor leg. There is tenderness over the sacrum, right buttock, posterior thigh, posterior knee, and calf. Range of motion is considered, flexion 100% with lumbar extension 50%. Neurological exam is normal except for right EHL 4+/5. Sensation and reflexes are considered normal. Recommendation was for epidural steroids. One of the reasons is suggested to "shed some light on how much leg pain is emanating from the back and how much is from soft tissue injury."

It appears that the disability paper work is prepared through this office. It is mentioned that she is seen at Aliso Creek Physical Therapy.

There is a followup report on 07/20/05 dating that her right leg is improving. She has declined the epidural - finish physical therapy and remain off work for one more month. Followup on 08/17/05 with her leg pain essentially resolved. She continues to have some low-back pain and right groin pain.

It appears that Dr. Amjadi, M.D., becomes a new member of this group. I have already reviewed the initial report on 11/21/05. There is a followup on 12/08/05 in which she is 50/50 with respect to the back and right leg. She is undergoing physical therapy for her right knee. Recommendation was for home exercise program and anti-inflammatories as well as a nerve root block with Dr. Tran.

There is an MRI, 12/02/05 from Laguna Niguel MRI, states that it is not much different than 04/13/05, it measures 5-6 mm at L4-5.

There is a followup, 01/03/06. The patient has decided not to have the epidural steroid injection. She continues with physical therapy for her knee. There is discussion regarding L4-5 discectomy with fusion. It appears that Dr. Amjadi requests the MRI of the right knee performed on 01/18/06.

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On followup 02/07/06, her right knee symptoms are better. It appears that she had a cortisone injection on her previous visit. There is no instability to the right knee. She has mild pain. I recommended that she see Dr. Graham, if the knee pain persists. There is discussion regarding her laminectomy and fusion. She is kept off of work.

**Laguna Niguel MRI:** I have already reviewed most of these studies. It actually appeared to contain the records of Encinitas MRI, which I have already reviewed.

**Southern California Orthotics and Prosthetics:** This is an initial visit on 05/06/05 for an ankle brace. There is HMO request from Duc Tran from 04/25/05.

**Neurology Center:** The records of Andrew Blumenfeld include the emergency room visit to Tri-City on 08/18/06, but she presents with an onset of frontal head pain and pressure along with ear popping and numbness in the neck down into the left arm. The CT scan had something in the left frontal lobe, not felt to be a bleed. It is felt to possibly be a cavernous hemangioma. She states that she was admitted and observed in the emergency room. Cases were discussed with neurology. She was discharged to home. It appears that the consultation is on 08/28/06. It is predominantly for headache. There is full range of motion of the neck. Neurological exam is normal. The assessment is migraine-type headache. She was given Lyrica. She was asked to have an MRA.

Followup 09/25/06 finds that her headaches are not much better. Therefore, she stopped the Lyrica. The recommendation was that she see neurosurgery for possible excision of the hemangioma. She is also given Pamelor and Zanaflex for her headache.

**David Schechter, M.D.:** This is a Culver City office for a preoperative history and physical and exam testing. The overall charges are \$860 for that evaluation.

**Miracle Mile Outpatient Surgery Center:** This was the site of the patient's right knee surgery. I have already reviewed the operative note. It appears that the billing is \$12826.

**Myung's Acupuncture Clinic:** Notes are all cryptic with Asian writing and are not helpful.

**Alliso Creek Physical Therapy:** This appears to be a physical therapy initiated by her HMO. Complaints are about the right lower extremity. It appears that she is evaluated on 04/04/05, complaint is to the right leg. It appears that she is seen through 07/29/05 at which point, she was discharged for lack of progress.

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It appears that she returns on 12/20/05 for her right knee. Records suggest that she is only seen on one occasion and then canceled multiple times in followup.

**Center for Orthopedic and Sports Excellence:** It appears to be records of Dr. Kreitenberg. There are some radiographs from 09/19/06, but they are not well reproduced. Postoperative records appear to suggest that the knee is doing better, when seen on 12/19/06. It appears that the initial visit is on 07/10/06, formal report does not state who it is directed towards. The chief complaint is low back down to the right leg as well as right knee pain. Lumbar flexion is to 24 inches. Her gait is normal and she can toe and heel walk. Reflexes appear to be normal. The motor examination only shows an abnormality of EHL 3/5. Circumferential measurements are equal. Sensation is normal. Right knee shows no effusion and has diffuse tenderness and has normal range of motion. There was no grind. There is no posterior nor anterior laxity. It was felt; however, that the status of the PCL was unclear. It is felt that the most PCL tears do not require reconstruction. If her knee pain persists, recommendation was for knee arthroscopy.

It appears that the charges for the initial visit are \$950. Charges for the knee scope listed as an unlisted procedure is \$4300. There is a followup on 01/30/07 in which she is apparently "happy that she had knee surgery."

There appears to have been an evaluation on 08/04/06 with John Greenfield. On this date, she states that she is walking with a limp and has patellar sensitivity in a tight lateral retinaculum, the laxity is listed as "slight" direction is not noted. It appears that the patient underwent an injection. There is a formal report from that visit. Actually, there is no anterior nor posterior laxity on physical examination. The impression is only internal derangement. I felt that the PCL reconstruction should only be done for instability.

**Kamran Aflatoon, D.O.:** Initial presentation is on 04/12/06. I have already had the opportunity to review that initial consultation. It is not directed to any particular physician.

There is a followup on 05/12/06 and once again it states that she has normal gait with ability to tiptoe on heels and toes. She states that the eyes are examined. There is yellow drainage. The recommendation was for surgery. This was performed on 05/24/06, the spine was dissected. There was no evidence of infection nor dural tear. As she was having so much pain on 07/12/06, it was recommended that she have a followup MRI scan. This was eventually performed on 07/25. There is a mention on 09/01/06 that she has "recovered from her surgery," but has limitations.

There appears to be a report on 02/21/07 and this is directed to attorney Paul Ottosi. She states that she is "doing very well." She is now able to toe, heel, and

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squat. Lumbar range of motion is slightly decreased, but the thoracic motion is felt to be slightly decreased without pain. Straight-leg raise is negative and neurological exam is normal. She states that she may require fusion in the future. She was asked to continue exercise and strengthening. She is asked to followup in two months. She states that she is considering a return to work. There was another letter on 04/04/07, which she is having low back and right leg pain. Examination is regurgitated. The recommendation was for an epidural steroid injection.

I find no billing records.

Kevin Triggs, M.D.

D: 06/18/2007 T: 06/19/2007 ID: OOLM0500061807140231  
RMB/MRR

**Case No: VC-06-06208 GGN**

**Manfred, et al. vs. Greenrock, et al.**

**EXHIBIT 5**

OF GE ORTHOPEDIC MEDICAL GROUP, INC.

PROVIDENCE BUILDING  
1310 W. STEWART DR. • SUITE 510  
ORANGE, CALIFORNIA 92668-3888  
(714) 538-8549  
FAX (714) 538-1547

**MICHAEL W. ABDALLA, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOW, AMERICAN ACADEMY OF ORTHOPEDIC SURGEONS

**MILTON E. LEGOME, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOW, AMERICAN ACADEMY OF ORTHOPEDIC SURGEONS  
FELLOW, AMERICAN COLLEGE OF SURGEONS

**KEVIN J. TRIGGS, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOW AMERICAN ACADEMY OF ORTHOPEDIC SURGEONS

**ERIC W. LEE, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOWSHIP TRAINED, SPORTS MEDICINE

**AYAZ A. BIVJI, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOWSHIP TRAINED, JOINT REPLACEMENT SURGERY

August 12, 2007

Ashley R. Leach, Esq.  
Wilson, Elser, Moskowitz, Edelman & Dicker, LLP  
555 South Flower Street, Suite 2900  
Los Angeles, CA 90071-2407

RE: Kimberly Manfred  
Manfred vs. Greenrock  
F/N: 02401-0026  
D/L: 05/19/05

Dear Ms. Leach:

This report represents a supplemental review of medical records, radiographs, and CD-ROM that you have sent to the office. This will supplement a previous IME performed by myself on 06/14/07.

**South Coast Medical Center:** There is a single lumbosacral x-ray report from 03/23/05. It is requested by Dr. Ravi. Indication is low-back pain with radiating pain into the leg. It is considered normal. There is a separate collection of records. There is a diagnostic imaging service image. Exam requisition form dated 09/27/04 is probably the request for the x-rays. The reason given is constant mid lumbar pain without radiation. Remainder of the reports are all similar to that I have previously reviewed.

**Saddleback Valley Radiology:** A normal right foot x-ray 02/11/03 is included. There is also the x-ray of the lumbar spine on 09/27/04 at the request of Dr. Kaura. Indications are "back pain."

There are the left ankle x-rays on 12/27/04 showing lateral soft tissue swelling. The indications are ankle injury.

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**Plaintiff's Responses To Form Interrogatories:** The patient states that she still has problems with back and right knee. This is signed on 03/01/07.

There is an additional Response, which shows charges. The charges by Kamran Aflatoon, D.O., are \$40,706.

**Deposition of Joshua Greenrock, 01/20/07:** Mr. Greenrock was the driver of the van involved in the motor vehicle accident. The patient was acting as a driver on an apparent video production group. The incident occurred when he returned to the Renaissance Hotel.

The specifics of the event appear that he was sitting in the van waiting for another person to return and got out of the van to pickup some of the trash within the van. The engine was running. It apparently was in drive. Parking brake was not set. As he got out of the driver seat he started to walk to the rear of the van. Next thing he noticed was a scream. Got back into his car and backed up 5-10 feet. He got out of the van. She had discomfort from leg and knee downward. He cannot remember the side. After he backed up the truck, he states that the patient sat down on the ground.

**Confidential Health History, 04/07/05:** This is a four page record, but it does not state to what office it is being filled out. This is the date that the patient first sees Dr. Wrobel. Reason for the visit was "injury to right leg/knee pinned by van against truck." There is no additional helpful information.

**Maya Kaura, M.D.:** There is a patient information sheet on 04/12/02. This corresponds to the initial presentation when she presents with severe postmenstrual syndromes with bloating, low-back pain, and constipation.

**Cox Communications:** There are notices of disciplinary action in 2004. Appears to be for excessive tardiness.

**South County Orthopaedic Specialist:** This was a notice of a return to full duty dated 02/23/06. Notification from Cox Communications following her release, since she did not want to secure a position within the company, that she will be changed to a voluntary termination 03/23/06.

**CD-ROM "Knee Surgery Photos":** On my previous review of records, I understand that knee arthroscopy was performed on 09/19/06. There is only a very small amount of chondromalacia at the apex of the patella. It appears that an Arthrocare-type unit is introduced. There is also a probe upon one of the femoral condyles and is probing a superficial articular softness. The ACL and PCL are well visualized and certainly appear to be normal on PDF six. Overall, this appears to be a very normal arthroscopy.

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**CVI Video CD:** These appear to be surveillance videos with date 12/02/05. There are some photographs of the apparent Plaintiff opening the hatchback of a car and then closing it and bending to the ground. Appears to bend over very easily to peer inside the window. I detect no antalgic gait. Bends over to tie some laces at the ankle and to lift a purse. There is a video of the patient in the garage with the hatchback open. She appears to be reaching and manipulating a surfboard both from the rear as well as reaching into a side door to manipulate it and was over to the other side to do it again. There is repetitive manipulation and loading of items that requires bending.

There are some videos of a day at a beach with surfboards. The patient is not observed to be surfing. She is observed to be easily bending over in and out of her car. The patient then has a backpack and appears then go to a swimming pool, swimming freestyle laps. After approximately 15 minutes of swimming, she then converts it to using a kickboard. She then even begins to do butterfly kicks with the kickboard.

**Radiographs:** There is an MRI lumbosacral spine 04/13/05 Laguna Niguel MRI. A T2 sagittal views show slight decreased signal at L4-5 with no obvious significant disc bulge. I detect no peripheral focal T2 signal nor any other evidence of an annular event. The axial T2 images reveal an age consistent capacious spinal canal. At L4-5, there may be a slight posterolateral disc bulge to the right. The facet joints may be slightly enlarged at that level, but certainly there is no central stenosis. The T-1 axial images at L4-5 are even less impressive for disc pathology.

MRI of right knee 01/18/06, there is some increased signal on the lateral facet of a well-seated patella. On the AP view I am able to appreciate the PCL. On the sagittal view there does not appear to be any obvious meniscus pathology. I have already commented on the image 100 sagittal view, which shows an incomplete signal through the PCL. I believe this actually represents an incomplete signal of the proximal PCL and the far aspect of the posterior horn of the medial meniscus, and a "separation" between those two dark signals is not an evidence of a PCL mid substance tear.

There are multiple radiographs from the Center for Orthopaedic and Sports Excellence. These appear to contain some ultrasound images that I will not review. There are some plain radiographs from 03/19/05 at the Sunrise Hospital and Medical Center in Los Vegas. There is an AP and lateral of the knee, which is normal. There are multiple x-rays of the femur, including the hip joint, from that date and these are all negative. The AP pelvis is also negative.

There is a bone scan limited to the lower extremities on 07/25/06. My interpretation is that it is normal.

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The CT scan of the brain I will not comment upon. There are 14 sheets of that image.

There is a jacket from the South Coast Medical Center. These include the normal left ankle, normal right foot, 02/11/03 and a normal lumbosacral spine on 09/27/04. There are five non-rib-bearing lumbar segments.

There is an AP, lateral of lumbosacral spine, 03/23/05. I cannot see where it was performed. It is normal and unchanged from 09/27/04.

MRI of the lumbosacral spine 12/02/05. The decreased T2 signal is noted at L4-5. The sagittal view does not reveal any significant disc bulge beyond a couple of millimeters. The axial images at L4-5 are not impressive for any obvious retropulsion.

**Deposition of Kimberly Manfred, 01/24/07:** The patient recalls that she was in a motor vehicle accident in 1991, when she was struck by a car while riding a bicycle. The only injury she recalls was a bruise to the left leg. She cannot recall any back pain before 03/19/05. Cannot recall the presentation for low-back pain in 2004.

There is much discussion regarding her employment at Cox Communications and some of the disciplinary action that was involved with the probation period to December 2004 through July 2005, as she had another episode of tardiness.

There is discussion regarding the physical requirements of her job. It was primarily sedentary. She would have to lift and carry maximum 20 pounds anywhere from one-half hour to one hour per day. Distance she would need to carry would be up to a couple of blocks. She has not been back to work since the accident. Does recall that she may have asked, possibly Dr. Tran, about returning to work. She then believes that she may have asked Dr. Aflatoon the same question on the initial visit.

The patient continues to have complaints behind the right knee and in her low back on the right side. She feels that she cannot do anything that requires prolonged sitting, standing, or walking. She has trouble with bending backwards or twisting. Even driving is painful. The patient states that she limped up until the time she had knee surgery on the right knee in September 2006. She states that she was getting better after surgery, but this last month she has been having chronic pain again. Prior to the event, the patient states that she ran every day anywhere from 5-10 miles.

There is an inaccurate recollection that she had only been to the beach on three occasions since the subject accident and that one of those occasions was with other

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people. Her estimate of that occurrence was in December of 2006 (video documents December 2005).

The patient states that she has trouble getting in and out of her Subaru Hatchback because of the required twisting motion.

There is a discussion regarding swimming and she estimates that she swam since the accident on 20-25 occasions. She has pain which makes it so that she cannot use her legs. She did start to use her legs following her knee surgery for kicking, but that has been more recent.

The patient feels that the lumbar surgery in May 2006 has reduced "some of the irritation" and she feels less pain going down the leg than she did before. She would estimate around 50%. She feels that the surgery to the knee has helped 60%, but her pain began to return in March 2007.

She also has returned to Dr. Aflatoon in April 2007, because of back pain, which is almost as bad as it was before the operation. There is discussion regarding an epidural. The epidural was not helpful. Has another MRI scan scheduled for 04/26/2007.

There is discussion regarding the specifics of the event. The patient was standing at the rear of a Toyota Tundra with the back gate completely down. She was leaning over the tailgate. May have turned, but cannot recall the direction. She believes that she was struck along her entire right side. At the time of the impact, she continued to lean across the tailgate. There were 5-10 seconds of crushing pain. The tailgate did lift up, but she did not estimate the distance. She believes that she herself was lifted up off the ground. With the pain, she laid down on the ground.

**Deposition of Maya Kaura, M.D.:** There is discussion regarding the initial visit on 04/12/02 during which she presented with a history of severe leg pain along with other complaints. There is also discussion regarding the presentation on 09/27/04 with complaints of low-back pain. It has worsened over the last two weeks, but had been present for many months. She was referred for an x-ray. Had difficulty in sitting and standing. Told that it was just muscular such as a back strain. She believes that she treated with over-the-counter anti-inflammatories.

She was then seen on 03/23/05. She was actually seen by associate Dr. Ravi. On followup with Dr. Kaura, the patient was referred to Dr. Tran for pain management. She has referred patients to Dr. Tran in the past.

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**ASSESSMENT:**

Status post motor vehicle versus pedestrian accident, 03/19/05:

1. Diffuse right lower extremity contusion.
2. Claims of onset right low back, buttock, and lower extremity pain.
3. No internal derangement, right knee joint.
4. Claims of subjective complaints not supported by radiographic and MRI studies and not supported by subroa.
5. Job requirements do not merit a 2 1/2 year disability.

Unrelated:

1. History of low-back pain, September 2004.
2. Chronic gastrointestinal complaints, likely inflammatory bowel syndrome.

**DISCUSSION:**

There are many aspects of this case that are difficult to understand, primarily because subjective complaints and medical diagnosis are not supported by objective radiographic and MRI studies, electrodiagnostic studies, physical examination, nor intraoperative findings during arthroscopy. Medical reasonableness becomes even more muddled after having the opportunity to review subroa video of the patient in December 2005, during which she is performing activities, seemingly very easily, that she lateral describes in deposition that she has been unable to perform at all. Obviously, either the veracity or the recollection of the patient is being challenged.

When I try and evaluate the objective diagnostic studies performed in this case, I am simply underwhelmed regarding findings that support the patient's subjective complaints. Nor are these findings that frankly would deserve operative intervention in hopes of delivering a predictable clinical improvement. In particular, the patient's MRI scan of the right knee is impressively benign. The radiologist who prepared the report would also concur. Medical providers have proposed a diagnosis of PCL tear, which apparently has allowed them to deliver a surgical recommendation. The MRI scan is not consistent with a PCL injury. Most importantly, the mechanism of injury should not deliver a PCL injury. No provider has delivered a physical examination that is consistent with an insufficient PCL. Predictably, right knee arthroscopy on 09/19/06 revealed a normal PCL. The intraoperative findings only appear to be some mild age consistent chondromalacia changes about the patella and certainly there is nothing

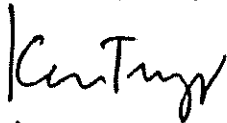
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intraarticular that could anyway be considered traumatic nor related in anyway to subject event. It does not surprise me that the patient did not get any improvement. Her knee is effectively normal with respect to intraarticular pathology. It is my medical opinion, that the right knee arthroscopy was not indicated.

As I now have had the opportunity to review two lumbosacral MRI scans of the patient, I am simply not impressed with the apparent claims of pathology made by some medical providers. There is mention of a 4-5 or 6-10 mm disc herniation. I am not sure where these assessments have come from, but I have had the opportunity to review her hardcopy MRI scans of the lumbosacral spine and would opine that there is only some minor decreased T2 signal content of the L4-5 disc space with a slight disc bulge to the right posterolateral area. These findings are ubiquitous and certainly can be seen within the patient's age group. It is my opinion that it is impossible to state that these findings are symptomatic nor that they were in anyway related to the subject accident. The subject accident would not be a typical mechanism of injury to deliver a disc herniation. The patient does not routinely describe symptoms consistent with a lumbar disc herniation. Medical providers, if they find abnormalities on physical examination, have described abnormalities over many different lumbosacral nerve roots. It appears that the patient has had a recent lumbar MRI scan on 04/26/07 and I would hope to have the opportunity to review that study. Overall, it does not surprise me that the patient does not believe that the surgical result has been impressively beneficial given that a questionable surgery has been performed on a very questionable pathological disc space.

Very truly yours,



Kevin J. Triggs, M.D.

D: 08/14/2007 T: 08/15/2007 ID: OOTK0587081407081910  
MAN/MRR

**Case No: VC-06-06208 GGN**

**Manfred, et al. vs. Greenrock, et al.**

**EXHIBIT 6**

**ORANGE ORTHOPEDIC MEDICAL GROUP, INC.**

PROVIDENCE BUILDING  
1310 W. STEWART DR. • SUITE 310  
ORANGE, CALIFORNIA 92668-3888  
(714) 838-8848  
FAX (714) 838-1847

**MICHAEL W. ABDALLA, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOW, AMERICAN ACADEMY OF ORTHOPEDIC SURGEONS

**MILTON E. LEGOME, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOW, AMERICAN ACADEMY OF ORTHOPEDIC SURGEONS  
FELLOW, AMERICAN COLLEGE OF SURGEONS

**KEVIN J. TRIGGS, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOW AMERICAN ACADEMY OF ORTHOPEDIC SURGEONS

**ERIC W. LEE, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOWSHIP TRAINED, SPORTS MEDICINE

**AYAZ A. BIVJI, M.D.**  
DIPLOMATE AMERICAN BOARD OF ORTHOPEDIC SURGERY  
FELLOWSHIP TRAINED, JOINT REPLACEMENT SURGERY

September 7, 2007

Re: Rule 26 Report  
Kimberly Manfred, et.al. vs. Joshua P. Greenrock, et.al.

**I. Assignment**

Kevin J. Triggs was retained in this medical-legal matter regarding the above case, with first contact on May 14, 2007. I have been requested to provide an opinion regarding medical issues surrounding the patient's claims of musculoskeletal injury purported to be subsequent to an injury event on 05/19/05. Opinions expressed herein will address issues whether Miss Manfred's medical treatment and care was reasonably required and related to subject accident. I will also address associated issues of reasonable disability.

Kevin J. Triggs, M.D. is a Board Certified and Board Recertified Orthopedic Surgeon who has been in private practice in the field of Orthopedic Surgery since 1990.

**II. Materials Reviewed and Relied Upon**

Documents that have been reviewed in preparation of rendering a medical opinion include:

- South Coast Medical Center
- Sunrise Hospital Emergency Room-Las Vegas
- Robert Jackson, M.D.
- Tri City Regional Medical Center

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- Advanced MRI and CT of Escondido
- Interventional Pain Management Medical Group
- Rancho Santa Margerita Physical Therapy
- Maya Kaura, M.D.
- Multiple radiographs and MRI studies including MRI right knee 01/18/06, MRI lumbar sacral spine 04/13/06, MRI lumbar sacral spine 12/02/05
- Encinitas MRI and CT Center
- South County Orthopedic Specialist
- Firoz Anjamdi, M.D.
- Nav Gujral, M.D.
- Andrew Blumenfeld, M.D.
- David Schechter, M.D.
- Miracle Mile Outpatient Surgery Center
- Myung's Acupuncture Clinic
- Aliso Creek Physical Therapy
- Center for Orthopedic and Sports Excellence-Arthur Kreitenberg, M.D.
- Kamran Aflatoon, D.O.
- Deposition of Kamran Aflatoon, D.O.
- Deposition of Andrew Blumenfeld, M.D.
- Sunrise Hospital and Medical Center
- South Coast Medical Center
- Saddleback Valley Radiology
- Deposition of Joshua Greenrock
- Plaintiff's Responses To Formal Interrogatories 03/01/07
- Cox Communications
- CD-ROM of knee arthroscopic surgery
- CVI video CD of subrosa of Kimberly Manfred
- Deposition of Maya Kaura, M.D
- Plain radiographs from Sunrise Hospital and Medical Center
- Deposition of Kimberly Manfred

### **III. Opinion**

It is in my opinion that as a consequence of the subject accident, the patient may have sustained transient short term right hip pain. Based principally upon the medical records involving emergency room and early medical providers, there definitely was a significant contribution from a snowboard accident the day before the subject accident, confirmed by the patient, in the nature of ecchymosis, at both knees which more probably than not was responsible for

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the ecchymosis to both knees and could be entirely responsible for the right hip pain.

It is my medical opinion that the mechanism of injury involved in the subject accident is not consistent with one to deliver a low-back injury and certainly not a mechanism of injury to deliver the eventual claim of a posterior cruciate ligament injury to the right knee. The initial ER examination does not even localize to the knee.

It is my medical opinion that the patient did not sustain internal derangement to the right knee in the subject accident. The mechanism of injury is not consistent with the delivery of force to cause said injury. The patient did not have a large effusion documented in the early examinations. There is an absence of consistent objective examination support for the diagnosis of a PCL injury. The findings on the MRI scan claiming to be a PCL injury, are simply an incidental finding as a consequence of standard MRI technique. Additionally, the intraoperative findings of mild degenerative disease within the right knee is very common within the patient's age group and within the general population. Again, the mechanism of injury would not deliver a force that could be in any way consistent with a traumatically induced arthritic knee nor with the development of chondromalacia. The eventual knee arthroscopy was not indicated nor related to subject accident.

It is my medical opinion that the isolated L4-5 decreased T2 signal cannot be considered related to trauma from subject accident. It is a very common finding within the general patient population. There are claims that the patient may have a disc herniation which apparently becomes the motivation for surgical treatment. It is my medical opinion that the patient never demonstrated subjective complaints nor any objective findings consistent with a true lumbar disc herniation and lumbar radiculitis/radiculopathy. It is my medical opinion that this degenerative L4-5 level is merely an incidental finding and was not related in any way to the subject accident. It is my medical opinion that the patient's back surgery was not indicated nor related to the subject accident.

It is my medical opinion that the patient has overstated her subjective complaints. I have had the opportunity to review the subrosa video tape which clearly shows the patient performing activities which she states in deposition testimony that she is incapable of performing. These activities are well known to be high stress biomechanical activities to the lumbar spine, yet she appears to be capable of performing them well without said limitations. The patient's accuracy and veracity are certainly challenged.

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It is my medical opinion that the claims of two and a half years of temporary disability from a minimally physical occupation cannot be supported when compared to the general patient population. I would opine that reasonable temporary disability for her occupation should be anywhere from none to a couple of weeks.

According to pre-accident records, the patient does have a history of chronic back pain in 2004 which may have contributed to her claims of low back pain.

It is my medical opinion that the medical charges submitted by Dr's Aflatoon and Kreitenberg are significantly beyond what represents as community standard and medically reasonable medical reimbursements. I do not know what the motivation may be in submitting a charge of \$13,809 for service that routinely reimburses around \$750. Similarly, there is a bill submitted for \$40,706 for service that would reimburse around \$1200.

**IV. Exhibits**

Prepared report 06/14/07 and 08/12/07.

**V. Prior Testimony**

The medical legal component of my private Orthopedic Surgery practice would be estimated at 5% of patients. I have had the opportunity to perform Independent Medical Examinations since 1993.

I do not have the ability to produce a list of previous deposition testimony, arbitrations, nor trial testimony. This information is not capable of being tracked through my office software. I would estimate that I have attended trial as an expert witness on 25 to 50 occasions since 1993.

**V. Compensation**

\$600 per hour for deposition, record review, and trial testimony.

Very truly yours,

  
Kevin J. Triggs, M.D.

**Case No: VC-06-06208 GGN**

**Manfred, et al. vs. Greenrock, et al.**

**EXHIBIT 7**

**Exponent**  
*Failure Analysis Associates\**

Exponent  
3401 McClannell Avenue  
Los Angeles, CA 90066

telephone 310-754-2700  
facsimile 310-754-2799  
www.exponent.com

September 15, 2007.

Ms. Ashley Leach, Esq.,  
Wilson, Elser, Moskowitz, Edelman and Dicker LLP,  
555 South Flower Street,  
Suite 2900,  
Los Angeles, California 90071.

**Subject: Report of Opinions on Injury Causation**  
**Case: Manfred vs Time Warner**  
**Exponent Project No. LA 32715**

Dear Ms. Leach:

Thank you for retaining Exponent-Failure Analysis Associates on this matter. In accordance with your request, I have prepared this report outlining my opinions to date in the above referenced case. The purpose of my retention is to review and analyze the medical records of Ms. Manfred, and render opinions on the reasonableness of different injury mechanisms in relation to the incident of March 19, 2005.

### **Information Received**

- Legal documents
  - First Amended Complaint, dated February 26, 2007
  - Form Interrogatories - General, Asking Party: Defendants, Greenrock, Turner & Time Warner; Answering Party: Plaintiff, Kimberly Manfred; Set no. 1, dated January 11, 2007
  - Plaintiff's responses to form interrogatories, dated March 1, 2007
  - Plaintiff Kimberly Manfred's further responses to form interrogatories, dated March 28, 2007
- Deposition transcripts
  - Joshua P. Greenrock, dated January 20, 2007
  - Kimberly Ann Manfred, dated April 24, 2007
  - Andrew M. Blumenfeld, M.D., dated July 18, 2007
  - Maya B. Kaura, M.D., dated July 18, 2007 with exhibits
  - Bradley Duc Tran, M.D., dated July 25, 2007
  - Kamran Aflatoon, D.O., dated July 25, 2007
  - Lisa Meyerhof-Jones, dated July 30, 2007

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- o Arthur Kreitenberg, M.D., dated August 21, 2007
- Digital copies of color photographs (4) from the accident scene
- Surveillance videos from CVI (2 CDs)
- Medical records of Kimberley Manfred
- Registration and results of the 24<sup>th</sup> Annual Super Run 10K run/walk on February 5, 2005 available on [//www.kathyloperevents.com/results/2005super10](http://www.kathyloperevents.com/results/2005super10).

### **Description of the Subject Incident**

The subject incident occurred on March 19, 2005 in a multi-level parking structure at the Renaissance Hotel in Las Vegas. Ms. Kimberley Manfred was located at the back of her vehicle, a Toyota Tundra, when she was contacted from behind by a 15 passenger Chevrolet van. Below are testimony summaries from the depositions of Ms. Manfred and Mr. Greenrock (who was the driver of the Chevrolet van).

### ***Deposition Testimony of Kimberley Manfred***

Ms. Manfred testified that, at the time of the incident, she was at the back tailgate of her truck, pulling out clothes and other things to stay overnight. She described her position as, "I was actually facing the back of the car, leaning over my back tailgate which was down...My son was sitting on the tailgate with his legs hanging over and I was pulling gear out..." Her son was facing into the parking lot at the time. Ms. Manfred testified, "Then from what I recall he screamed and at the same time he pulled himself into the bed of the truck, and while at the same time I g lanced over at him and then I, from what I can remember, I think I turned a little bit." She was facing the truck "straight on" with the front part of her body leaning against the tailgate and thinks she was turning to see what her son was screaming at, but does not know which way she turned. Ms. Manfred stated, "Well, what I remember happening next is just seeing this van right up against me, hitting me and I just felt this pain and kind of being lifted off the ground." The van came from directly behind her and hit her whole right side, around her hip and buttocks, and she described that the front of the grille and anything below was against her right calf through her right buttock. About five to ten seconds passed before the van released her. She described, "And it pressed hard enough against me that it actually lifted me up off the ground and caused me to, like to fold. Like the tailgate came up...The tailgate folded up and I folded with it and it was hard enough that it felt like I was going to be crushed." Her feet "must have been" off the ground, and she said, "It felt like they were."

Ms. Manfred described what happened after the van released her: "Well, at some point the van was not on me, and the only thing I can remember after that is my son was screaming and very angry and running over to this guy, so my first instinct was my son, you know, I don't want him to go attack somebody so I ran over there to go grab - well, I don't think I ran. I can't remember. But it felt like I got there in a very short time and grabbed him and then at that point I realized that I was in so much pain that I just laid down on the ground."

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*Deposition Testimony of Joshua Greenrock*

Mr. Greenrock testified that he was the driver of the 15 passenger Chevrolet van. He drove to a colleague's (Mark Hunstable) car so Mark could "put some stuff into his car." He parked the van "in the right aisle slightly past Mark's car." He brought the van to a parked stop. He did not set the parking brake, the engine was running, and the van was in drive. He was in the van waiting for Mark to finish. He got out of his seat and went towards the back of the van "to pick up trash in the van." He estimated about fifteen seconds elapsed between the time he got off the seat and time he heard a scream.

Mr. Greenrock testified that he looked up and saw that the van had rolled or idled forward. As fast as he could, he jumped back in the driver's seat, put the van in reverse, and reversed the van. He testified that he saw the upper part of a woman's body "from the chest up." He believed he saw the front of her body. He backed up five to ten feet, put the van in park and got out of the van. He believed the tailgate of Ms. Manfred's truck was down.

He stated that "the lady was in discomfort in her leg from the knee down." He cannot remember which leg was involved. He stated that "I realized that her knee or her leg, part of her leg was in between my van that rolled forward and her own vehicle." When he backed away, Ms. Manfred sat down on the ground. There were three other witnesses at the scene; a 36 year old male friend of Manfred's, and two children of approximate ages five and eleven years old.

**Summary of Relevant Medical Findings for Ms. Kimberley Manfred**

Around the time of the incident, Ms. Manfred stood at 5 ft 2 in tall and weighed about 115 pounds. She worked as an internet support technician.

After the subject incident on March 19, 2005, Ms. Manfred was seen in the emergency room at Sunrise Hospital and Medical Center. She reported "pain in her right leg after she was hit by a car." "Her leg was temporarily pinned. She was immediately ambulatory after, with increasing pain radiating from her groin down to behind her knee. She had some slight numbness. No other injuries." The physical examination revealed limited range of motion (ROM) in her right hip and palpable spasm on the medial aspect of her right thigh. X-rays taken of her pelvis, right hip, and femur were all negative for fractures. The diagnosis on discharge was right thigh muscle spasm. She was provided crutches for ambulation, and was prescribed a sedative (Valium), narcotic (Vicodin), and an anti-inflammatory (ibuprofen). The triage/nursing assessment noted that Ms. Manfred had bruising on both knees. It also noted that Ms. Manfred stated the bruising was from snowboarding the day prior to the incident.

Four days after the incident, Ms. Manfred was seen by Dr. Ravi who reported that she complained of right thigh pain, and "back pain radiating to right leg." Physical examination revealed "a limited positive straight leg raise (SLR) on the right side, positive muscle spasm in

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the lumbosacral area." The impression was "back pain sciatica right secondary to lumbosacral strain".

Eleven days after the incident, Ms. Manfred was seen by her primary care physician, Dr. Kaura, who noted complaint of "pain in the right leg from hip to ankle, worse below knee". Objectively, there were areas of bruising over the right buttock and back of the knee. There was swelling on the medial (inside surface near the midline of the body) aspect of the left knee, and tenderness on the right calf without any erythema (redness). She was referred for physical therapy.

The physical therapist who evaluated Ms. Manfred on April 4, 2005 noted complaints of "constant burning to sharp pain in the right posterior thigh, calf and lateral thigh, increased with activity." Objective findings include moderately limited ROM in the lumbar spine secondary to increased pain in the right lower extremity, and moderate to severe restriction in hip and knee ROM secondary to pain. There was tenderness in the right thigh, hamstrings, posterior (back surface) thigh and calf. The health history questionnaire revealed that Ms. Manfred was involved in a regular exercise program 7 days a week. Her exercises include running, swimming, jujitsu, snowboarding, and surfing.

On April 7, 2005, Ms. Manfred was seen by orthopedist Lance Wrobel, M.D. He noted that "most of her problem is with her knee but she states that the pain starts in her back, radiates to her buttock, to her thigh and into her calf." Ms. Manfred was not using her crutches because the crutches issued to her did not fit well. She was taking only ibuprofen. During the examination, she "moved about the exam room very slowly". Her physical findings revealed some bruising in the posterior thigh near her hamstrings and in popliteal fossa (depression directly behind the knee) of her right knee. There was tenderness in her calf and thigh. Her knee ROM was between 0 and 95 degrees. There was no effusion in the knee joint. Her sciatic notch was very tender. SLR caused some discomfort on the right side but was negative on the left. In the confidential health history, it was noted that she was "hit on left side by auto while on bicycle in 1992." In Outcome, it was noted "long term chiropractic, numbness left side only around hip; scar on left leg (front)." Dr. Wrobel referred her for a lumbar MRI to rule out an HNP (herniated nucleus pulposus).

The lumbar MRI report on April 13, 2005 noted that "at the L4-5 level, there is a right lateral disc protrusion with an elongated base of 6-7 mm in depth and more than 10 mm along its base. There is a peripheral annular fissure". There is subarticular recess stenosis and foraminal narrowing on the right.

On April 22, 2005 (one month after the incident), Ms. Manfred was evaluated by a pain specialist, Bradley Tran, M.D. She complained of "right leg pain with numbness and tingling in her right buttock through the posterior thigh, specifically in the popliteal area, involving the calf area and the ankle. She had bruising in her right buttock and right posterior knee." The only pain medication she was then taking was "ibuprofen, up to twice per day." During the physical

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examination, Ms. Manfred was in "mild discomfort moving around the room." There was no bruising on the back; some possible soft tissue swelling in the lower sacral area. There was tenderness along the sacral region, right buttock, posterior thigh, and calf area. Lumbar ROM was noted as 100% flexion, 50% extension, and 100% bilateral bending. She had a slow, antalgic gait. The SLR was negative bilaterally. Interestingly, there was "exquisite tenderness over the medial aspect of the right ankle distal to medial malleolus. He recommended epidural steroid injections into the low back at the levels of L4-5 and L5-S1.

On July 19, 2005 the physical therapist, Dawn Albert P.T., reported to Dr. Tran that Ms. Manfred was "swimming, walking, biking on a regular basis for cardiovascular endurance. No radiculopathy or paresthesia with therapeutic exercise or activities of daily living (ADLs). Increased paresthesia with prolonged sitting or driving only. No low back pain (LBP) with therapeutic exercises." She recommended additional therapy once weekly for another 2-3 weeks, and then progress to a home exercise program.

Dr. Tran evaluated Ms. Manfred on two other follow-ups on July 20 and August 17, 2005 where she reported improvement in her right leg pain and later resolution respectively. She continued to have back pain. She decided not to proceed with the epidural injections. In the August visit, she had "mild reproduced back pain with straight leg raise. No reproduced leg pain. Normal gait. Hip ROM full without reproduced groin pain." Her strength and sensation were intact. Dr. Tran anticipated her return to light duty in one month's time.

On November 4, 2005 Ms. Manfred was evaluated by orthopedist, Firooz Amjadi, M.D. She complained of low back pain and right leg pain involving the right knee and numbness in the leg. Her low back pain contributed 70% while her right leg 30%. She reportedly "had physical therapy and anti-inflammatories which have not given her relief. Her symptoms since the initial injury has not improved at all. In fact she thinks she might be slightly worse." Her objective findings over the back were tenderness over the lower lumbar region. Her lumbar ROM was extension to 5 degrees and flexion to 80 degrees with significant pain. She had numbness and tingling in the right L4 distribution. She had negative tension and long tract signs. On her right knee, there was no effusion or swelling. She had tenderness over the lateral and medial jointlines, with the lateral side significantly more painful. Her knee was stable. She had no pain with palpation and subluxation of the patella. He reviewed the lumbar MRI and diagnosed degenerative disc disease at L4-5 with an annular tear. He also diagnosed a possible meniscal tear in the right knee. He recommended epidural injections for the lumbar spine and an MRI of the right knee.

Dr. Amjadi re-evaluated Ms. Manfred on three follow-ups on December 8, 2005, January 3, 2006 and February 7, 2006. She had significant improvement in her right knee after a steroid injection in January 2006. She had persistent low back and right leg pain. Objectively, she appeared to have increased lumbar ROM, with pain on extension consistently. Throughout the visits, she had negative tension and long tract signs. Her right knee continued to have good

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ROM and no instability. She only had mild pain of the medial and lateral joint-lines in February 2006. He recommended lumbar surgery for which Ms. Manfred wanted a second opinion. A repeat lumbar MRI on December 2, 2005 reported a right-sided disc protrusion at L4-5 of similar dimensions compared to the MRI in April 2005. An MRI of the right knee done on January 18, 2006 was negative for meniscal or ligament tear; there was mild to moderate effusion.

On February 15, 2006, Ms. Manfred was evaluated by a neurosurgeon, Robert Jackson, M.D., on a referral by Dr. Amjadi for a second opinion. She reported more pain in her back than her leg. Overall, she reported she was 60-70% better over the last ten to eleven months. She denied numbness or tingling in her upper or lower extremities. She takes ibuprofen occasionally. Her neurological examination revealed some give-away weakness in strength testing. She had a normal gait. The rest of her examination was unremarkable. He reviewed the lumbar MRI of November 2, 2005 and diagnosed "a small 4-5 mm disc protrusion, right L4-5. Mild L4-5 foraminal compromise." He recommended a nerve conduction study and electromyogram (NCS/ EMG), and to hold off lumbar surgery at that time. The NCS/EMG study was done on March 9, 2006, and was essentially normal except for "very early changes within the L4 myotome suggestive of early right L4 radiculopathy." Ms. Manfred returned to see Dr. Jackson on March 21, 2006. The history and examination remained unchanged. He reviewed the NCS/EMG and opined that there was no evidence of significant nerve damage. He recommended lumbar epidural steroid injections.

Of interest was a note from Dr. James Mullen (South County Orthopedic Specialists) on February 17, 2006, returning Ms. Manfred to full duty starting February 23, 2006.

On April 12, 2006 (about one year after the incident), Ms. Manfred was evaluated by yet another orthopedist, Kamran Aflatoon, D.O. She reported constant pain in right lower back and leg; "her pain travels from the lower back into her right buttock, around the thigh and into the right foot." She reported weakness in the right leg. Objectively, she had a normal gait, able to walk on tiptoes and heels, and with no evidence of foot drop. Her lumbar ROM was decreased in flexion from 60 to 40 degrees, and in extension from 20 to 10 degrees. There was mild paraspinal spasm and tenderness on the right side. The right sciatic notch was tender. The right SLR was positive. The knee ROM was normal in flexion and extension. He recommended lumbar surgery (partial facetectomy at L4-5, laminectomy at L4-5 and discectomy), which was carried out on May 11, 2006. During her post-surgical follow-up on May 24, 2006, she developed a wound infection that required irrigation and debridement, and antibiotics.

Subsequent follow-ups with Dr. Aflatoon on July 12, 2006, February 21, 2007, and April 4, 2007 revealed an fluctuating pattern in pain relief. In February 2007 she was "doing very well and started a more active lifestyle" while in April 2007 she reported pain in her back and radiation to her leg. Her lumbar and knee ROM remained essentially unchanged. Her SLR was negative bilaterally. In April 2007, Dr. Aflatoon recommended lumbar epidural injections.

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With regard to her right knee, Ms. Manfred was evaluated by a knee specialist, Arthur Kreitenberg, M.D., on July 10, 2006. She reported sharp right knee pain made worse with walking. The knee symptoms were worsening. She also reported moderate to severe lumbar pain with numbness and tingling down the right leg. There was also "some numbness and tingling in the left leg." Objectively, she had a normal gait. There was no effusion in the right knee. There was diffuse tenderness over the knee. Her knee ROM was 0 to 120 degrees. There was no evidence of patellar apprehension or patellar grinding. "The patient guards for pivot shift and McMurray's test." He suspected an internal derangement of the knee. His assessment of the lumbar spine revealed limitation of ROM to 30% of normal. SLR was positive on the right. He ordered a bone scan of the right knee, which was done on July 25, 2006 and was normal.

At a follow-up visit with Dr. Kreitenberg, on July 28, 2006, he noted persistent complaint of pain in the right knee, left calf and low back. There was mild posterior tenderness in the right knee. Knee ROM was full. He opined that the diagnosis remained elusive. He injected her knee with a local anesthetic (Lidocaine), which provided some pain relief. He recommended proceeding with a diagnostic knee arthroscopy.

On Dr. Kreitenberg's suggestion, Ms. Manfred was seen by Dr. Jon Greenfield on August 4, 2006 for a second opinion on the right knee. She reported sharp and achy right knee pain. The pain "was in front of her leg down to her foot." Physical findings revealed a tight lateral retinaculum, tenderness over the medial facet of the patella, and pain and crepitance with patellar compression. Testing of the ligaments and menisci appeared unremarkable. He gave her another injection of steroid and xylocaine into her right knee. He agreed with proceeding with the diagnostic arthroscopy.

The diagnostic arthroscopy was carried out on September 19, 2006, which revealed a "grade II chondromalacia over an area of the central portion of the patella measuring approximately 8 x 10 mm." There was no significant corresponding defect of the femoral groove. There was general synovitis, and irritation of the posteromedial corner of the lateral meniscus without frank tear." Post-operative follow-up on January 30, 2007, noted that Ms. Manfred "remains happy that she had the knee surgery." There was a "0.25 inch circumference difference but the VMO (vastus medialis obliquus) appears to be returning its normal size." She demonstrated "full ROM, no tenderness and no effusion" in her right knee.

Past medical history: A review of the available medical records predating the March 19, 2005 incident reveals that Ms. Manfred had at least two episodes of low back pain. In Dr. Kaura's notes of April 12, 2002, Ms. Manfred stated that a "few months back had severe leg pain, inability to walk." In September 27, 2004 Ms. Manfred complained of "pain in lower back, hard to stand or sit." She reported "low back pain across mid-lumbar region for many months - low intensity."

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### **Site Inspection and Testing**

Exponent conducted a site inspection and exemplar study on July 16, 2007 using a surrogate who matched Ms. Manfred's height and weight, at the time of the accident, to determine the physical relationship between the surrogate's torso and limb dimensions and the external features of the exemplar vehicles.

Exponent also conducted testing using an anthropometric test device (ATD) and exemplar vehicles. In this set of tests, the ATD matched the Ms. Manfred's height and weight and was set so that the limb dimensions matched those of an human surrogate. Tests were conducted to examine the likely set of kinematics and forces experienced by Ms. Manfred in the subject accident.

The details of these testing and the biomechanical analyses are described in Dr. Irving Scher's report.

### **Analysis and Discussion of Injury Causation**

The analysis is focused on the right knee and the lumbar spine because they have received the most attention by the health care providers. The probable mechanisms that can cause these injuries will be discussed in light of the known medical chronology, medical and the biomechanics.

#### ***Right knee***

Figure 1 shows the relationship of a surrogate's torso and lower extremities with respect to the lowered tailgate of an exemplar Toyota Tundra and the front section of an exemplar Chevrolet van. The Toyota's tailgate (when down) and the Chevrolet's front bumper are offset vertically. There are three areas of contact on the surrogate's body as the space between the two vehicles is decreased; the rear edge of the tailgate with the front of the surrogate's hip, the top part of the van's front bumper with the back of the mid-thigh, and the pelvis and back with the soft plastic grille of the van. Considering only the contact between the mid-thigh and the Chevrolet's front bumper, it can be shown biomechanically that the motion generated by the incident does not provide a reasonable and probable mechanism to injure the right knee. This is described in detail in Dr. Scher's report.

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*Figure 1: Surrogate study at the accident site showing relationship of torso and lower extremity with respect to the exemplar vehicles. The Toyota Tundra (with the tailgate down) is on the left. The front of the Chevrolet van is on the right.*

The medical chronology after the subject incident also supports the above-mentioned conclusion. When Ms. Manfred was examined in the emergency room immediately after the subject incident, the physician noted primarily restricted mobility in her right hip, and tenderness on the inside surface (medial aspect) of her right thigh. The physician did not suspect a significant right knee injury; he did not order an x-ray of the right knee, which he would likely do if he suspected a significant right knee injury. The diagnosis was a right thigh muscle spasm.

Likewise, Dr. Ravi did not note a right knee injury when Ms. Manfred was evaluated four days after the subject accident. Eleven days after the accident, Dr. Kaura observed bruising over the right buttock and back of the right knee. Curiously, there was swelling on the inside surface of the left knee and tenderness on the right calf. The physical therapist who evaluated Ms. Manfred sixteen days after the incident noted tenderness in the right thigh, hamstrings, back of thigh and calf. Nineteen days after the incident, Dr. Wrobel reported bruising in the back of the thigh near the hamstrings and in the depression in the back of the right knee (popliteal fossa) accompanied by tenderness in the calf and thigh.

A month after the incident, Dr. Tran similarly reported bruising in the right buttock and the back of the right knee. Additionally he noted exquisite tenderness on the inside surface of the right ankle which was not documented before. Four months after the incident, the physical therapist reported that Ms. Manfred was already swimming, walking and biking regularly for cardiovascular endurance.

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The objective findings of bruising in the back of the right knee, swelling in the left knee, and right calf tenderness observed by the different health care providers over a period of one month can reasonably be attributed to the snowboard injury that occurred one day before the subject incident. The emergency room physician diagnosed only right thigh muscle spasm on discharge. The triage nurse noted what may well be the beginning of the bruising in both her knees in the emergency room on the day of the incident. Since the specifics of the snowboard incident are unknown, the snowboard incident could have caused a contusion to the back of the right thigh. This contusion resulted in rupture of small blood vessels in the local area of the hamstrings. Over time, the bruising can track down, due to gravity, to the back of the right knee where the muscle membrane (fascia) of the hamstrings end. This could account for the bruising consistently observed over the back of the right knee by the different healthcare providers.

It is unclear as to the cause of the right ankle sprain reported by Dr. Tran on April 22, 2005. This observation was not noted by any other prior providers who evaluated Ms. Manfred.

Ms. Manfred's reported pain levels and behavior appear to be at odds with the medications consumed. When she was evaluated by Dr. Wrobel eleven days after the incident, she was reportedly "moving about very slowly." Yet she was only taking ibuprofen even though she was given stronger medications, including a narcotic and sedative to help with pain relief. One month later, when evaluated by Dr. Tran, she continued to be taking only ibuprofen "up to twice a day".

Ms. Manfred appeared to have recovered well enough by the fourth month that she was participating in her usual exercises for cardiovascular endurance. Her right knee could not have been limiting her functionally if she were biking and walking regularly for endurance.

The arthroscopic finding of cartilage softening (chondromalacia) in the kneecap reported by Dr. Kreitenberg in September 2006 (18 months after incident) appears to be an incidental finding. Certainly the biomechanical analysis does not provide a reasonable mechanism for a kneecap injury; the appropriate motion and forces are not present. The medical chronology further confirms this conclusion. With an acute kneecap injury, it is reasonable to expect tenderness reported at the front of the right knee, around the kneecap. The medical literature indicates that this finding can be further confirmed by compressing and grinding the kneecap against the underlying bone (femoral condyle), and eliciting exquisite tenderness (Natri et al, 1998).

At the emergency room visit on the day of the incident, Ms. Manfred did not complain of right kneecap pain. In fact there was no objective indication of right kneecap tenderness throughout the visits from the date of incident to August 2006. She did not have tenderness even when the right kneecap was specifically compressed and displaced in November 2005 and July 2006 by Drs. Amjadi and Kreitenberg, respectively. Only Dr. Greenfield reported tenderness over the right kneecap on compression in August 2006.

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The cause of cartilage softening in the kneecap can be due to a sudden large impact or repeated small loadings on the kneecap. The former is acute and elicits an immediate painful response. The latter is insidious, and is usually associated with what is commonly called patellar femoral syndrome (PFS). PFS is commonly associated with athletes and highly active individuals. Briefly, the main causes of PFS are widely attributed to three factors (Tumiaa nd Maffuli, 2002):

1. malalignment of the kneecap with respect to the pull of the very strong muscles in front of the knee (quadriceps),
2. imbalance of the quadriceps muscle, with the inside thigh muscles typically weaker than the outside muscles, thereby tending to pull the kneecap more to one side and eroding that side more as well, and
3. overactivity when the intrinsic repair capability of the cartilage is overwhelmed, and microdamage due to normally tolerable impacts are not repaired effectively.

Ms. Manfred testified during her deposition that she used to run 3-5 miles a day during the week, and 5-10 miles a day on the weekends in the two years preceding the subject incident. In the snowboarding season of 2004-05, she snowboarded every weekend. She was surfing every weekend during the summer in the five to six years preceding the subject incident. In fact, Ms. Manfred ran a 10K race on February 5, 2005.

Given Ms. Manfred's very active lifestyle, it is reasonable to assume that she is at risk of developing PFS (Tumia and Maffuli, 2002). The degree of risk would depend on her level of activity and aggressiveness in the sports. It is unclear as to why she developed right kneecap symptoms around August 2006. It is clear, however, that the subject incident of March 19, 2005 did not provide a probable mechanism to cause the cartilage softening in the right knee reported nineteen months later.

#### *Lumbar spine*

Referring to Figure 1, as the distance between the truck and van is decreased, the surrogate's hip can contact both the Toyota's tailgate and the Chevrolet's front grille. This observation is supported by the emergency room report that Ms. Manfred complained that she was hit on the "right posterior hip" However, she did not complain of low back pain, and the x-rays showed no evidence of a right hip fracture.

The MRI finding of a disc protrusion at the L4-5 level on April 13, 2005, appears to be an incidental finding. First of all, a reasonable mechanism to cause an acute lumbar herniation in this incident is not supported by the biomechanical analysis. The lumbar spine has to be sufficiently compressed and bent forward (forward flexion) to produce the right combination of forces to cause a lumbar herniation (Adams and Hutton, 1982). This loading on the lumbar

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spine is not supported by the results of Exponent's testing using the ATD. The detailed analysis is in Dr. Scher's report.

The medical chronology does not support the theory that the incident caused an acute lumbar herniation. A traumatic lumbar disc herniation is acutely painful, and would be duly noted by a clinician. In contrast, Ms. Manfred did not complain of low back pain at the time she presented to the emergency room. Hence lumbar spine x-rays were not taken. Even when Ms. Manfred was evaluated by Dr. Kaura and the physical therapist eleven and fifteen days after the incident, there were no complaints of low back pain.

The physical findings were also inconsistent with a lumbar herniation. An objective finding often associated with lumbar herniation is painful and limited ability to bend forward (forward flexion) (Vroomen et al, 1999). Yet in April of 2005, about one month after the incident, Ms. Manfred was able to bend fully forward and had a negative straight leg raise (SLR). The significance of the SLR is that a negative finding suggests no significant nerve root involvement (Vucetic and Svensson, 1996). In addition, as was noted earlier, Ms. Manfred was only taking ibuprofen for symptomatic relief in the first month after the incident. Typically an acute lumbar herniation requires significantly stronger pain relief medications.

The lumbar spine MRI in April of 2005 was interpreted by Dr. Amjadi in November of 2005 to include degenerative disc disease (DDD) at L4-5 as well as the herniated disc at that level. This interpretation is consistent with the reported presence of "foraminal narrowing and lateral recess stenosis." The finding of lumbar DDD three weeks after the incident does not support an acute process at the L4-5 disc level. This finding suggests that Ms. Manfred had pre-existing disc pathology prior to the subject incident. The review of her past medical records reveal at least two episodes of prolonged low back pain in 2002 and 2004.

Although Ms. Manfred was on the young side to develop lumbar DDD, her very active lifestyle increased her risk, especially if she participated in surfboarding and snowboarding very aggressively which can subject the spine to very high compressive loads, leading to early degeneration.

## **Conclusions**

In summary, based on my background, training, and experience in the areas of medicine, biomechanical engineering, and the materials reviewed to date, I have reached the following conclusions, and present them with a reasonable degree of scientific and medical certainty:

1. It is reasonably probable, from both biomechanical and medical stand-points, that the bruising in both knees and tenderness in the right calf observed over one month after the subject incident resulted from her snowboarding injury the day prior to the incident.

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2. The finding of cartilage softening (chondromalacia) on the right kneecap is an incidental finding. There is no biomechanical and medical bases to reasonably attribute the cartilage softening in the right kneecap to the incident of March 19, 2005. Given Ms. Manfred's very active lifestyle, this finding is more consistent with patellar femoral syndrome (PFS).
3. The finding of a lumbar disc herniation at the L4-5 level is an incidental finding. The biomechanics and medical chronology do not support a reasonable mechanism for the subject incident to cause an acute lumbar disc herniation at the L4-5 level.

The opinions and conclusions in this report are based upon the materials reviewed and the information available to me at this time. As more information becomes available at a later date, I reserve the right, if necessary, to amend this report or author a supplemental report.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Tack Lam', with a horizontal line underneath the name.

Tack Lam, M.D., Ph.D.  
Board certified, Occupational Medicine,  
Certified Independent Medical Examiner (ABIME)

**Attachments:**

- A. List of Depositions and Trial Testimony over Last Four Years
- B. Fee Schedule
- C. Curriculum Vitae